

1350000000--Montgomery
Nokomis Public Well #6
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Volume 1 of 2

EPA Region 5 Records Ctr.



379180



CERCLA

Screening Site Inspection Report



**Illinois Environmental
Protection Agency**
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Confidential Material May be Enclosed

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1. INTRODUCTION

Illinois Environmental Protection Agency's Pre-Remedial Unit was tasked by the U.S. Environmental Protection Agency (USEPA) to conduct a screening site inspection (SSI) of the Nokomis Public Well #6 and #8.

The site was initially discovered by the Illinois Environmental Protection Agency's Division of Public Water Supplies. The Nokomis Public Well #6 was evaluated in the form of a Preliminary Assessment (PA) that was completed by Jeanine Morse of the IEPA on May 18, 1987 and submitted to USEPA. The IEPA's Pre-Remedial Unit prepared an SSI work plan for the Nokomis Public Well #6 that was approved by USEPA. This work plan included the installation of four monitor wells. An IEPA reconnaissance inspection of the site was conducted on January 4, 1988.

The purposes of an SSI have been stated by USEPA in a directive outlining Pre-Remedial Program strategies. The directive states:

All sites will receive a screening SI to 1) collect additional data beyond the PA to enable a more refined preliminary HRS (Hazard Ranking System) score, 2) establish priorities among sites most likely to qualify for the NPL (National Priorities List), and 3) identify the most critical data requirements for the listing SI step. A screening SI will not have rigorous data quality objectives (DQOs). Based on the refined preliminary

HRS score and other technical judgement factors, the site will then either be designated as NFRAP (no further remedial action planned), or carried forward as an NPL listing candidate. A listing SI will not automatically be done on these sites, however. First, they will go through a management evaluation to determine whether they can be addressed by another authority such as RCRA (Resource Conservation and Recovery Act) Sites that are designated NFRAP or deferred to other statutes are not candidates for a listing SI.

The listing SI will address all the data requirements of the revised HRS using field screening and NPL level DQOs. It may also provide needed data in a format to support remedial investigation work plan development. Only sites that appear to score high enough for listing and that have not been deferred to another authority will receive a listing SI (USEPA 1988).

USEPA Region V has also instructed IEPA to identify sites during the SSI that may require removal action to remediate an immediate human health and/or environmental threat.

2. SITE BACKGROUND

2.1 INTRODUCTION

This section includes information obtained from the SSI workplan preparation and site representative interview.

2.2 SITE DESCRIPTION

The Nokomis Public Well #6 is currently being utilized by the town, however, Public Well #8 has been inactive since 1988 due to a collapsed well screen.

Public Well #6 is located in the approximate center of the town's well field southwest of Nokomis. The well is situated 840' north and 2,040' west of the southeast corner of Section 22, T.10N., R.2W., in Montgomery County.

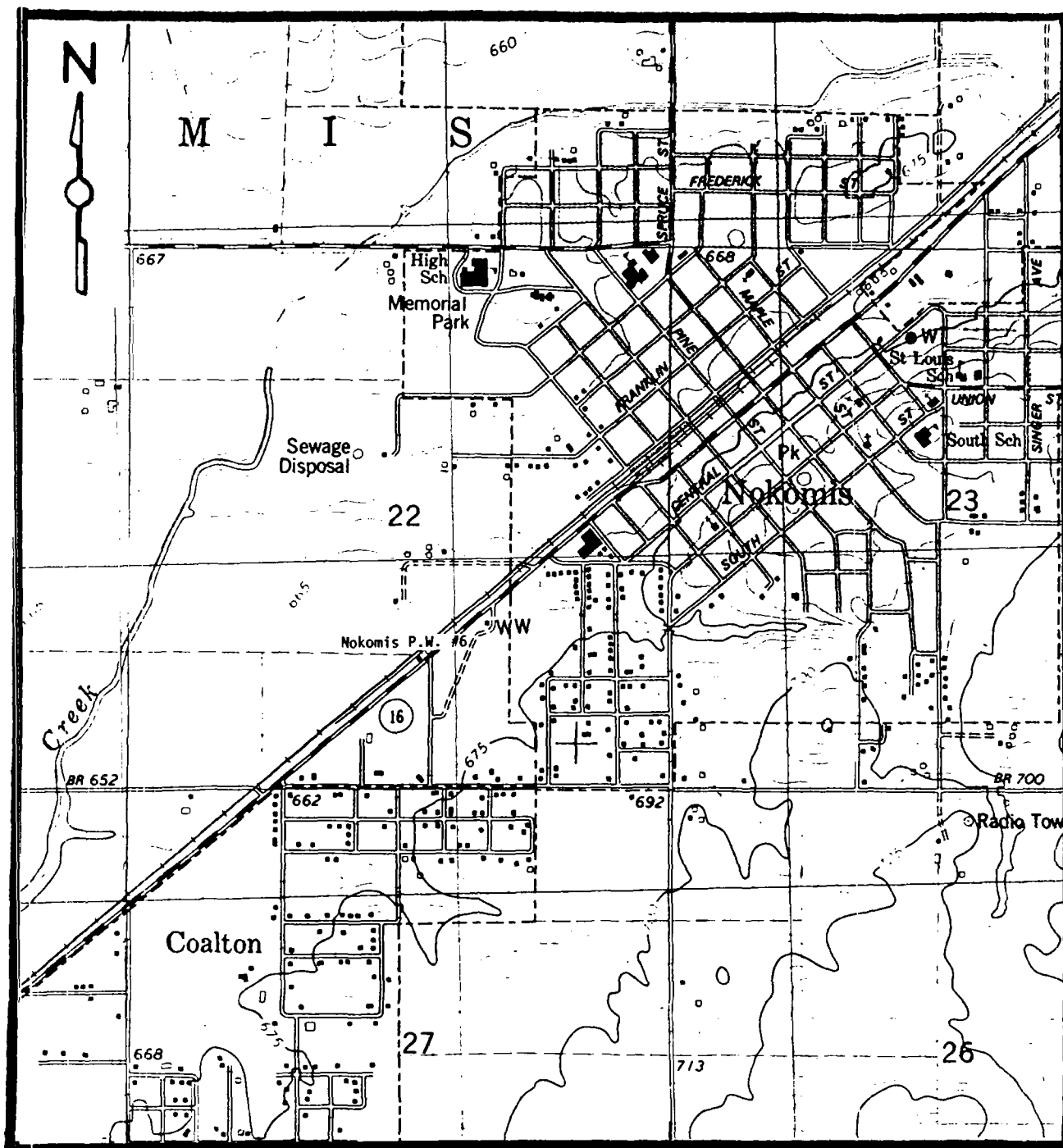
Public Well #8 is located immediately west of the corner of Walnut and Front Streets in the town of Nokomis. The well is situated 2,090' south and 375' west of the northeast corner of Section 22, T.10N, R.2W.

A four-mile radius map of groundwater for the Nokomis Public Well #6 is provided in Appendix A.

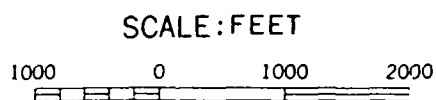
2.3 SITE HISTORY

The well sites utilized by the Village of Nokomis are situated on municipal property, with Well #6 at the Water Plant and Well #8 on village rights-of-way.

Nokomis Public Well #6 was drilled in August 1951 to a depth of 41 feet. The well is cased with 12" diameter steel casing from one foot above ground surface to a depth of 29'2". The remainder of the well is 13' of 12" diameter silicon red brass screen.



SCURCE:IEPA,1989;Base Map:USGS 1980 Nokomis, Illinois Quadrangle, 7.5 Minute Series.



SITE LOCATION

FIGURE 2-1

Nokomis Public Well #8 was drilled to a depth of 40' in March 1977. The well is cased with 8" black steel to a depth of 32', followed by 8' of 8" #20 slot stainless steel screen to a depth of 40'.

The Illinois EPA's Pre-Remedial Program Unit became involved with the Nokomis Public Water Supply when repeated routine sampling events indicated volatile organic contamination. Table 2-1 summarizes the results of contaminants found for Wells #6 and #8 and their respective concentrations.

Table 2-1

Nokomis Public Well #6

<u>Sample Date</u>	<u>Contaminant</u>	<u>Concentration</u>
August 25, 1987	Tetrachloroethene	7 ppb
	Trichloroethene	6 ppb
November 9, 1987	Tetrachloroethene	16 ppb
	Trichloroethene	12 ppb
January 18, 1988	Tetrachloroethene	21 ppb
	Trichloroethene	14 ppb
August 16, 1988	Tetrachloroethene	7 ppb
	Trichloroethene	5 ppb

Nokomis Public Well #8

<u>Sample Date</u>	<u>Contaminant</u>	<u>Concentration</u>
September 3, 1987	Tetrachloroethene	20 ppb

Well #6 is now on standby following the completion of the installation of Well #10. Well #8 is abandoned with no plans to reopen.

Water from the public wells is aerated (iron oxidation), discharged to a rapid mixing basin where lime and soda ash are fed (lime-soda softening), discharged to a flocculation basin, discharged to a settling basin, discharged to a recarbonation basin where CO₂ is fed into the water. The water is then chlorinated, filtered, discharged to a 28,500 gallon clear well, fluoridated and discharged to the distribution system and a 200,000 gallon elevated storage tank.

GR:tk:4/39/30(8/7/89)

3. SCREENING SITE INSPECTION PROCEDURES AND FIELD OBSERVATIONS

3.1 INTRODUCTION

This section outlines procedures and observations of the SSI at the Nokomis PWS site, including monitor well installation. Individual subsections address the site representative interview, reconnaissance inspection, monitor well installation, monitor well data and sampling procedures. The SSI was conducted in accordance with the USEPA-approved workplan.

The USEPA Potential Hazardous Waste Site Inspection Report (Form 2070-13) for The Nokomis PWS site is provided in Appendix B. The USEPA Immediate Removal Action checksheet for the site is provided in Appendix C.

3.2 SITE REPRESENTATIVE INTERVIEW

Gary L. Reside, IEPA team leader, conducted a telephone interview with Mr. Mike Finn, the Nokomis water superintendent on January 27, 1989. Mr. Finn was questioned at length about the past history of the site, the possibility of contamination from off site sources, and the status of the contaminated public wells. The interview with Mr. Finn however, did not result in the documentation of any readily identifiable sources of contamination.

On February 22, 1989, a meeting was conducted at the Nokomis Village Hall. In attendance were IEPA personnel and Nokomis village officials. The purpose of the meeting was to

inform the village of IEPA's intentions and inquire if the Village had any suggestions or disagreements. The Village approved IEPA's plans for installation of the groundwater monitoring wells.

On March 17, 1989, the IEPA sent a letter to MR. Robert C. White requesting permission to collect a sample of groundwater from the well on the Randall property. Mr. White is the executor for the Gertrude Randall estate. On April 5, 1989, Mr. White granted permission to the IEPA for the sampling of the Randall well.

The overall plan involved the installation of three monitoring wells to determine groundwater flow, local geology, and the possible source of and extent of groundwater contamination.

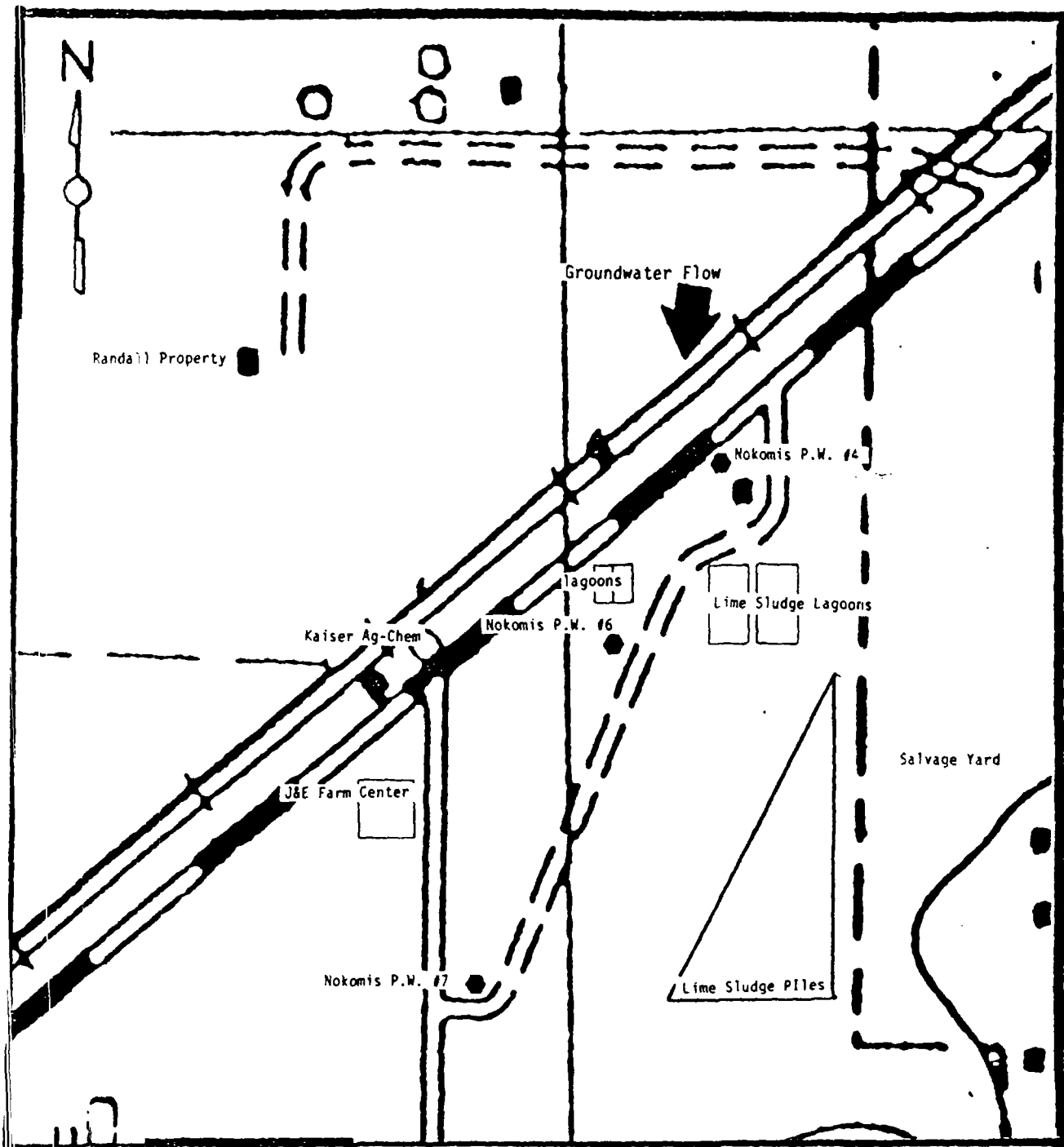
3.3 RECONNAISSANCE INSPECTION

IEPA personnel conducted reconnaissance inspections of the Nokomis PWS site and the surrounding area on January 4, 1989, January 9, 1989, and February 22, 1989.

The inspections included walks through the site area to identify three potential locations for monitor wells, three locations for soil samples and to determine the appropriate health and safety requirements.

Reconnaissance Inspection Observations.

Nokomis Public Well #6 - This well is located in a rural area southwest of the Village. The area is a mixture of row crops and open space with some commercial establishments.



Source: IEPA, 1989.

MAP NOT TO SCALE

SITE FEATURES

FIGURE 3-1

There are several potential contamination sources surrounding the site.

The Nokomis Well Site Survey prepared by the IEPA/Division of Public Water Supplies cites five potential sources of contamination. These sources are 1) the lime sludge lagoons located 250 ft. NE, 2) the lime sludge piles located 200 ft. SE, 3) an agricultural chemical plant located 290 ft. SW, 4) a farm equipment salvage yard located 340 ft. E, 5) an agricultural chemical plant located 440 ft. SW.

Nokomis Public Well #8 - This well is located near the intersection of Walnut and Front Streets, in the southwest part of town. This well is no longer active due to a collapsed well screen.

During the January 4, 1989, site reconnaissance inspection, approximately twelve 55 gallon drums of paint resin were noted on the abandoned property immediately north of the well. This property was once the site of a factory which manufactured skis and sleds. This factory went out of business in the mid-1950's.

The IEPA Immediate Removal Unit is currently working with present owners of this site to bring about a voluntary clean-up.

Due to the fact that Nokomis Well #8 is closed and therefore no longer poses a viable route of exposure to the population, this Screening Site Inspection was concentrated on Public Well #6.

3.4 MONITORING WELL INSTALLATION

Groundwater monitoring well installation began on March 8, 1989 with the drilling of G101 and ended March 14, 1989 with the completion of G102 (Figure 3-2 for monitoring well locations). Each well was augered to a depth of 35 feet, with the aquifer of concern screened with a five foot screen section. Each well was cased using Johnson #304 type stainless steel casing and screening with a cap and a steel protective cover placed over the casing. Each protective cover was grouted in-place and locked before moving to another well location.

Well logs of the three monitoring wells installed around the Nokomis P.W. #6 are provided in Appendix D.

3.5 MONITORING WELL DATA

Groundwater elevations were measured April 6, 1989 and April 12, 1989. On April 12, 1989 groundwater elevations were taken after all public wells had been shut off for eight hours, and after all the public wells had been operating for nine hours.

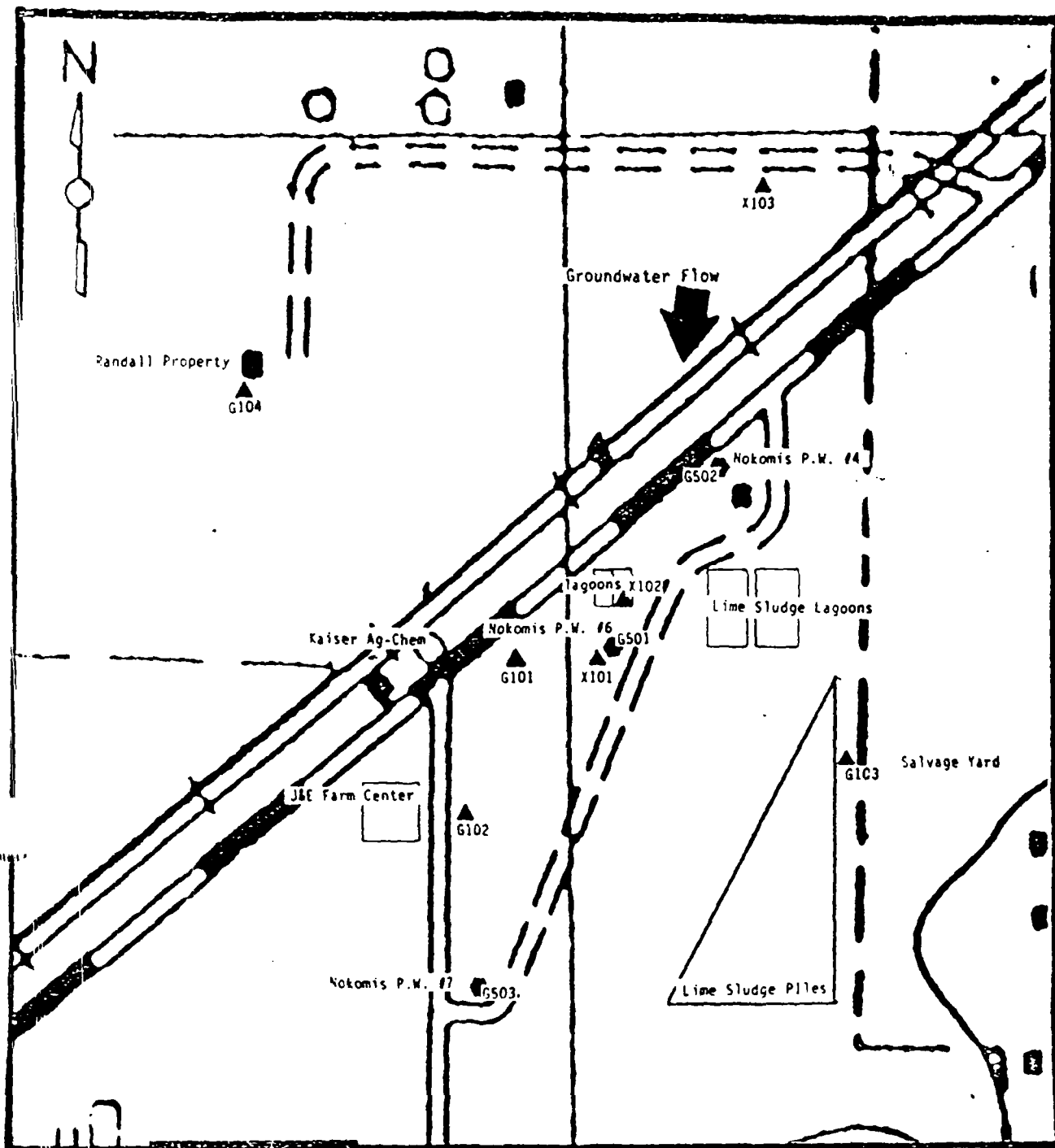
Groundwater direction maps drawn from the data collected indicated a southerly groundwater flow. Groundwater measurements and groundwater flow maps for the monitoring wells installed around the Nokomis Public Well #6 site are provided in Appendix E.

3.6 SAMPLING PROCEDURES

Samples were collected by IEPA personnel to determine levels of USEPA Target Compound List (TCL) compounds present at the site. The Target Compound List is provided in Appendix F.

On April 12, 1989, IEPA personnel collected seven groundwater samples and three soil samples (see Figure 3-2 for the ten sampling locations).

Groundwater Sampling Procedures - The three public wells (Wells #6, #4, and #7), the three monitoring wells and a private well sample were sampled on April 12, 1989. These wells are indicated as G501, G502, G502, G101, G102, G103, and G104 respectively on Figure 3-2.



Source: IEPA, 1989.

MAP NOT TO SCALE

SAMPLE LOCATIONS
SITE FEATURES

FIGURE 3-2

These groundwater samples were taken to determine the area of the groundwater contamination, the direction of flow, and to narrow the possible number of sources of contamination. All the wells had five well volumes purged, with pH, conductivity and temperature measured before purging, after the removal of three well volumes and immediately prior to sample collection. The monitoring wells were purged and sampled with a three foot teflon bailer and a nylon cord. The public and private well samples were taken from the tap prior to any type of treatment. Samples from the monitoring wells were field filtered with a Masterflex variable speed peristaltic pump for total metals and mercury. After sample collection, the bottles were dried, preservatives were added to the required bottles and evidence tape was placed on each bottle cap. The samples were then packaged in coolers in accordance with USEPA required procedures.

Soil Sampling Procedures - Three soil samples were collected to compare two potentially contaminated areas (X101 and X102) with one background sample (X103).

Sample X101 was taken two feet from the southwest corner of Public Well #6. This sample was taken from a depth of 1-2.5 feet, with a stainless steel bucket auger. The sample appearance was a moist silty clay, with no readings above background detected on the HNu.

Sample X102 was collected from the sediments of one of the two evaporation lagoons located north of Well #6. This sample was taken from the top 6 inches of sediment, with a stainless steel spoon. The sample appearance was a black to grey colored silty clay, with no readings above background detected on the HNu.

Sample X103 was taken as the background because soil in this area appeared to be representative and undisturbed. The location of X103 was 231 feet west of the railroad tracks along the south side of the driveway to the Huber property. This site is approximately 800 feet north of the Nokomis Public Well #6. This sample was taken from a depth of 1-2.5 feet, with a stainless steel bucket auger. The sample appearance was a moist silty clay, with no readings above background detected on the HNu.

The samples were evidence taped and packaged in coolers in accordance with USEPA required procedures. The samples, G101, G102, G103, G104, G501, G502, G503, X101, X102, and X103 were analyzed for TCL compounds by the IEPA's Division of Laboratories. Photographs for the Nokomis Public Well #6 site are provided in Appendix H.

Decontamination Procedures - Standard Illinois Environmental Protection Agency decontamination procedures were followed prior to the collection of all samples. The procedures included the scrubbing of all equipment (bailers, spoons, pans, etc.) with a non-foaming Trisodium Phosphate solution, rinsing with hot tap water, rinsing with acetone, rinsing with hot tap water again and final rinsed with distilled water. All equipment is air dried, then wrapped and stored in heavy duty aluminum foil for transport to the field.

4. ANALYTICAL RESULTS

4.1 INTRODUCTION

This section includes the analytical results of IEPA-collected samples for TCL compounds.

4.2 ANALYTICAL RESULTS OF IEPA-COLLECTED SAMPLES

Chemical analysis of water samples collected by IEPA personnel revealed the following substances from the TCL: volatile organics, common laboratory artifacts and common groundwater constituents. Chemical analysis of soil samples collected by IEPA personnel revealed only common laboratory artifacts and common soil constituents (see Table 4-1 for the summary of groundwater and soil chemical analysis results). Complete laboratory analytical data of groundwater and soil sample analysis are provided in Appendix G.

GR:tk:4/39/27(8/4/89)

SNRPLING POINT	6 501	6 502	6 503	6 101	6 102	6 103	6 104	X 101	X 102	X 103
VOLATILES (ppb)	4-12-89	4-12-89	4-12-89	4-12-89	4-12-89	4-12-89	4-12-89	4-12-89	4-12-89	4-12-89
Chloromethane	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	--	--	--	--	--	--	--	--	--	--
Chloroethane	--	--	--	--	--	--	--	--	--	--
Methylene Chloride	--	--	--	--	3.0 J	--	--	4.0	0.9 J	--
Acetone	--	--	--	--	--	8.0 J	--	--	--	42.0
Carbon Disulfide	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene(total)	--	--	--	--	--	--	--	6.0 J	--	--
Chloroform	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	--	--	--	--	--	--	--	--	--	--
2-Butanone (MEK)	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	--	--	--	--	--	--	--	--	--	--
Vinyl Acetate	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--
Trichloroethene	6.0	--	--	--	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--	--	--
Benzene	--	--	--	--	--	--	--	--	--	--
Trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--	--
Bromoform	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	--	--	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	13.0	--	--	--	--	--	--	--	--	--
Toluene	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	0.6 J	--	--	--	--	--	--	--	--
Chlorobenzene	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	--	--	--	--	--	--	--	--	--	--
Styrene	--	--	--	--	--	--	--	--	--	--
Xylene(total)	--	--	--	0.6 RI	--	--	--	--	0.6 RI	--

SEMI-VOLATILES (ppb)

[illegible]

[illegible]

TABLE 4-1
SUMMARY[illegible]

PESTICIDES (ppb)

[illegible]

TABLE 4-1
SUMMARY

SAMPLING POINT	6 501 4-12-89	6 502 4-12-89	6 503 4-12-89	6 101 4-12-89	6 102 4-12-89	6 103 4-12-89	6 104 4-12-89	X 101 4-12-89	X 102 4-12-89	X 103 4-12-89
AROCLOP-1016	--	--	--	--	--	--	--	--	--	--
AROCLOP-1221	--	--	--	--	--	--	--	--	--	--
AROCLOP-1232	--	--	--	--	--	--	--	--	--	--
AROCLOP-1242	--	--	--	--	--	--	--	--	--	--
AROCLOP-1248	--	--	--	--	--	--	--	--	--	--
AROCLOP-1254	--	--	--	--	--	--	--	--	--	--
AROCLOP-1260	--	--	--	--	--	--	--	--	--	--

INORGANICS (Groundwater samples ppb..Soil samples ppm)

ALUMINUM	93.4	131.0 B	114.0 B	1027.0	253.0	26140.0	140.0 B	10390.0	19730.0	11090.0
ANTIMONY	--	--	--	--	--	--	--	--	--	--
ARSENIC	--	2.0 B	--	2.0 B	2.0 B	14.0	--	3.2	2.9	3.1
BARIUM	104.0 B	170.0 B	161.0 B	178.0 B	77.0 B	282.0	23.3 B	184.0	170.0	215.0
BERYLLIUM	--	--	--	--	--	2.0 B	--	0.9	1.2	0.9
CHROMIUM	--	--	--	5.7	--	--	--	--	--	--
CALCIUM	414000.0	136500.0	191600.0	738000.0	218800.0	57710.0	130100.0	3860.0	2898.0	3923.0
CHROMIUM	11.2	9.8 B	13.3	42.7	11.8 B	61.2	15.1	13.5 B	22.3	14.0
COBALT	--	--	--	145.0 B	3.9 B	14.3 B	--	3.3 B	1.9 B	4.0 B
COPPER	3.3 B	4.4 B	--	7.4 B	--	139.0	147.0	11.4	15.1	13.0
IRON	3546.0	4067.0	5593.0	3306.0	782.0	21360.0	668.0	12710.0	21760.0	15720.0
LEAD	--	1.0 B	1.0 B	1.0 B	1.0 B	65.0	3.0 B	11.0	1.6	9.0
MAGNESIUM	42220.0	40470.0	49860.0	150700.0	42400.0	25510.0	52680.0	1707.0	2895.0	1790.0
MANGANESE	964.0	689.0	1326.0	8281.0	2960.0	611.0	14.9 B	280.0	110.0	650.0
MERCURY	--	--	--	0.1 BN	0.2	0.2 B	--	--	--	--
NICKEL	7.9 B	--	8.7	29.0 B	7.9 B	34.9 B	--	8.4 B	11.6	11.5
POTASSIUM	84670.0	4694.0	56940.0	1730000.0	166500.0	2570.0 B	1309.0 B	705.0 B	2040.0	750.0
SELENIUM	--	--	--	--	--	--	2.0 B	0.5 B	0.4	0.5 B
SILVER	--	--	--	5.0 B	--	--	--	--	--	--
SODIUM	81260.0	52430.0	75410.0	135600.0	44680.0	99470.0	67770.0	394.0 B	267.0 B	35.0 B
THALLIUM	--	--	--	--	--	--	--	--	--	--
URANIUM	--	--	--	4.3 B	--	97.0	--	23.0	37.0	25.5
ZINC	--	--	12.9 B	16.2 B	22.5	400.0	334.0	43.0	53.0	40.0
CYANIDE	--	--	--	--	--	--	--	--	--	--
SULFATE	206000.0	184000.0	302000.0	461000.0	227000.0	151000.0	293000.0	--	--	--
SULFIDE	--	--	--	--	--	--	--	--	--	--
Temperature (F)	56.5	57.1	57.5	54.0	54.8	55.1	53.1	--	--	--
Sp. Cond. (umhos)	1830.0	1890.0	1150.0	1090.0	2500.0	870.0	1380.0	--	--	--
pH	7.1	6.2	6.5	5.4	5.8	7.5	8.0	--	--	--

ORGANIC DATA QUALIFIERS

- U - Indicates compound was analyzed for but not detected.
- J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B - This flag is used when the analyte is found in the associated blank as well as in the sample.
- E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. This flag will not apply to pesticide/PCB's analyzed by GC/EC methods.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- A - This flag indicates that a TIC is a suspected aldol-condensation product.
- X - Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the Sample Data Summary Package and the Case Narrative.

INORGANIC DATA QUALIFIERS

C (Concentration) Qualifier:

- B - Indicates the reported value is less than the Contract Required Detection Limit (CRDL) but greater than the Instrument Detection Limit (IDL).
- U - Indicates compound was analyzed for but not detected.

Q Qualifier:

- E - The reported value is estimated because of the presence of interference.
- M - Duplicate injection precision not met.
- N - Spiked sample recovery not within control limits.
- S - The reported value was determined by the Method of Standard Additions (MSA).
- W - Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while the sample absorbance is less than 50% of spike absorbance.
- * - Duplicate analysis not within control limits.
- + - Correlation coefficient for the MSA is less than 0.995.

M (Method) Qualifier Enter:

- "P" for ICP
- "A" for Flame AA
- "F" for Furnace AA
- "CV" for Manual Cold Vapor AA
- "AV" for Automated Cold Vapor AA
- "AS" for Semi-Automated Spectrophotometric
- "C" for Manual Spectrophotometric
- "T" for Titrimetric
- "NR" if the analyte is not required to be analyzed.

5. DISCUSSION OF MIGRATION PATHWAYS

5.1 INTRODUCTION

This section discusses data and information that apply to potential migration pathways and targets of TCL compounds and/or TAL analytes that may be attributable from Nokomis Public Well #6.

5.2 GROUNDWATER

Groundwater samples collected during the April 12, 1989, Screening Site Inspection contained volatile organic compounds. These compounds (trichloroethene and tetrachloroethene) exceeded the Maximum Contaminant Level (MCL) of 5 ppb which has been proposed under the Safe Drinking Water Act. A review of routine sample results for Nokomis Public Well #6, consistently show contamination below levels which normally cause acute health effects. However, the levels are often above the proposed MCLs and present a threat if consumed on a chronic basis. The volatilization of chemicals such as TCE and PCE from the indoor uses of water can be a source of exposure (Andelman 1985, IEPA 1989, USEPA 1988).

The water produced from well #6 goes into a universal distribution system where it is mixed and therefore diluted with water from the City's four other wells.

Further, there exists a high potential for contaminants to migrate by groundwater to nearby public wells or off-site

5. (continued)

private wells. This potential is based on the following information:

Surface soils are classified as Herrick silt loam. This soil type is moderately permeable (USDA 1969).

The aquifer of concern is found from approximately 6 ft. to 70 ft. and consists of fine to coarse grained sands and gravels. The underlying limestone in this area is not considered to have good water yielding capacity and water quality fails with increasing depth (15W5 1966).

Groundwater flow direction in the vicinity of the site is to the south (IEPA 1989).

The nearest well is approximately 500 ft. downgradient from Public Well #6. This well (Public Well #7) is drilled to a depth of 38.5 ft. and is screened at a depth of 28.5 ft. the same as Well #6 (IEPA 1976).

The lime sludge lagoons and lime sludge piles have no liners (IEPA 1989).

5.3 SURFACE WATER

No surface water samples were collected during the April 12, 1989, SSI of Nokomis Public Well #6. There is potential for surface water contamination, however, the surface water run-off does not empty into any streams, lakes, or rivers. The run-off from the site collects and ponds in a ditch on the north boundary of the facility and remains until it evaporates or infiltrates into the soil.

5.3 AIR

A release of contaminants to the air or the potential for such a release was not documented during the SSI of the Nokomis Public Well site. During the screening site

inspection, a photo ionization detector with an 11.7 lamp was utilized. No readings above background were recorded.

5.4 FIRE AND EXPLOSION

No fire and/or explosion threat was documented during the SSI of the Nokomis Public Well #6.

5.6 DIRECT CONTACT

According to all available file information, and interviews with site representatives, there is no documented incident of human injury associated with this site.

While no access restrictions are present at this site, shallow soil samples collected during the April 12, 1989 SSI failed to document any contamination (IEPA 1989).

6. BIBLIOGRAPHY

- Adden, Gene, February 22, 1989, interview, Mayor for Nokomis, Nokomis, Illinois, interviewed by Gary L. Reside.
- Andelman, Julian, 1985, Human Exposure to Volatile Halogenated Organic Chemicals in Indoor and Outdoor Air.
- Finn, Michael, February 22, 1989, interview, Water Superintendent for Nokomis, Nokomis, Illinois, interviewed by Gary L. Reside.
- Farnsworth & Wylie Engineers & Surveyors, March 1, 1989, test hole installation logs.
- Illinois Department of Energy and Natural Resources, State Water Survey, water well records for Montgomery County, T.10N., R.2W.
- Illinois EPA, 1987, Potential Hazardous Waste Site Preliminary Assessment, for Nokomis Public Well #6, USEPA ID: ILD981956477, prepared by Jeanine Morse.
- Illinois EPA Public Water Supply, public well sample results from Nokomis Public Well #6 and #8.
- Illinois EPA Public Water Supply, March, 1989, Well Site Survey Report, Springfield, Illinois.
- Illinois State Geological Survey, 1957, Groundwater Geology in South-Central Illinois, Urbana, Illinois.
- Illinois State Water Survey, 1966, Yields of Wells in Pennsylvanian and Mississippian Rocks in Illinois, Urbana, Illinois.
- U.S. Dept. of Agriculture, 1969, Soil Survey of Montgomery County, Illinois, Urbana, Illinois.

6. Bibliography (continued)

USEPA, Office of Solid Waste and Emergency Response, February 12, 1988,
Pre-Remedial Strategy for Implementing SARA, Directive Number
9345.2-01, Washington, D.C.

U.S. Geological Survey, 1974, Bald Knob Quadrangle, Illinois, 7.5 Minute
Series: 1:24,000.

U.S. Geological Survey, 1980, Nokomis Quadrangle, Illinois, 7.5 Minute
Series: 1:24,000.

U.S. Geological Survey, 1982, Ohlman Quadrangle, Illinois, 7.5 Minute
Series: 1:24,000.

U.S. Geological Survey, 1974, Ramsey Lake Quadrangle, Illinois, 7.5
Minute Series: 1:24,000.

APPENDIX A

SITE 4-MILE RADIUS MAP

SDMS US EPA Region V

Imagery Insert Form

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APPENDIX B

USEPA FORM 2070-13



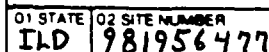
Site Inspection Report



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION	
01 STATE IL	02 SITE NUMBER 981956477

II. SITE NAME AND LOCATION					
01 SITE NAME (Legal, Common, or descriptive name of site) Nokomis Public Well #6			02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER 111 South Pine Street		
03 CITY Nokomis			04 STATE IL	05 ZIP CODE 62075	06 COUNTY Montgomery
07 COORDINATES LATITUDE: 39 17 40.0 LONGITUDE: 089 17 44.0			08 COUNTY CODE 135		
			09 CONG. DIST. 20		
10 TYPE OF OWNERSHIP (Check one) <input type="checkbox"/> A PRIVATE <input type="checkbox"/> B FEDERAL <input type="checkbox"/> C STATE <input type="checkbox"/> D COUNTY <input checked="" type="checkbox"/> E MUNICIPAL <input type="checkbox"/> F OTHER <input type="checkbox"/> G UNKNOWN					
III. INSPECTION INFORMATION					
01 DATE OF INSPECTION 4 12 89 MONTH DAY YEAR		02 SITE STATUS <input checked="" type="checkbox"/> ACTIVE <input type="checkbox"/> INACTIVE		03 YEARS OF OPERATION 1951 Present BEGINNING YEAR ENDING YEAR	
04 AGENCY PERFORMING INSPECTION (Check all that apply) <input type="checkbox"/> A EPA <input type="checkbox"/> B EPA CONTRACTOR <input type="checkbox"/> C MUNICIPAL <input type="checkbox"/> D MUNICIPAL CONTRACTOR <input checked="" type="checkbox"/> E STATE <input type="checkbox"/> F STATE CONTRACTOR <input type="checkbox"/> G OTHER					
05 CHIEF INSPECTOR Gary L. Reside		06 TITLE EPS II		07 ORGANIZATION IEPA	08 TELEPHONE NO. (217) 782-6760
09 OTHER INSPECTORS Greg W. Dunn		10 TITLE EPS II		11 ORGANIZATION IEPA	12 TELEPHONE NO. (217) 782-6760
Tim J. Murphy		EPS II		IEPA	(217) 782-6760
					()
					()
					()
13 SITE REPRESENTATIVES INTERVIEWED Mike Finn		14 TITLE Water Superintendent		15 ADDRESS 111 South Pine, Nokomis	
Gene Adden		Mayor - Nokomis		111 South Pine, Nokomis	
Melvin Haber		Neighbor to WTP		Route #3 - Box 1, Nokomis	
17 ACCESS GAINED BY (Check one) <input checked="" type="checkbox"/> PERMISSION <input type="checkbox"/> WARRANT		18 TIME OF INSPECTION 9:15 A.M.		19 WEATHER CONDITIONS Sunny, Cool ≈ 60°	
IV. INFORMATION AVAILABLE FROM					
01 CONTACT Michael Finn		02 OF Agency Organization Nokomis Water Treatment Plant			03 TELEPHONE NO. (217) 563-2013
04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM Gary L. Reside		05 AGENCY IEPA	06 ORGANIZATION Pre-Remedial Program	07 TELEPHONE NO. (217) 782-6760	08 DATE 8 8 89 MONTH DAY YEAR



I HIGHLY VOLATILE
J EXPLOSIVE
K REACTIVE
L INCOMPATIBLE
M NOT APPLICABLE



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
ILD 981956477

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A GROUNDWATER CONTAMINATION 02 ☒ OBSERVED (DATE 4-12-89) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED 3062 04 NARRATIVE DESCRIPTION

During the Screening Site Inspection, Nokomis Public Well #6 was found to be contaminated with Tetrachloroethene (PCE) and Trichloroethene (TCE). This water is utilized by the City of Nokomis (pop. 2656) and the Village of Coalton (pop. 406) for primary drinking water.

01 ☐ B SURFACE WATER CONTAMINATION 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

No evidence

01 ☐ C CONTAMINATION OF AIR 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

No evidence

01 ☐ D FIRE EXPLOSIVE CONDITIONS 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

No evidence

01 ☒ E DIRECT CONTACT 02 ☒ OBSERVED (DATE 4-12-89) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED 3062 04 NARRATIVE DESCRIPTION

The population is ingesting water from the contaminated well. Inhalation of volatile organics is a potential route of exposure. However, dermal exposure does not appear to be a route of concern.

01 ☒ F CONTAMINATION OF SOIL 02 ☒ OBSERVED (DATE 4-12-89) ☐ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED Unknown 04 NARRATIVE DESCRIPTION

Contamination of the groundwater by a surface source appears to be the cause of most likely route of pollution.

01 ☒ G DRINKING WATER CONTAMINATION 02 ☒ OBSERVED (DATE 4-12-89) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 3062 04 NARRATIVE DESCRIPTION

See A

01 ☐ H WORKER EXPOSURE/INJURY 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

No evidence

01 ☒ I POPULATION EXPOSURE/INJURY 02 ☒ OBSERVED (DATE 4-12-89) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED 3062 04 NARRATIVE DESCRIPTION

See A and E.



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
ILD 981956477

II. HAZARDOUS CONDITIONS AND INCIDENTS *(Continued)*

01 ☐ J. DAMAGE TO FLORA
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED

No evidence

01 ☐ K. DAMAGE TO FAUNA
04 NARRATIVE DESCRIPTION (include name, status, species)

02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED

No evidence

01 ☐ L. CONTAMINATION OF FOOD CHAIN
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED

No evidence

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES
(Spills, Runoff, Standing liquids, Leaking drums)

02 ☒ OBSERVED (DATE 4-12-89) ☐ POTENTIAL ☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED 3062

04 NARRATIVE DESCRIPTION

Since the contaminants of concern are not naturally occurring compounds, the source must have improper containment.

01 ☐ N. DAMAGE TO OFFSITE PROPERTY
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED

No evidence

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED

No evidence

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED

No evidence

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: 3062

IV. COMMENTS

V. SOURCES OF INFORMATION *(Cite specific references e.g. state files, sample analysis, reports)*

IEPA/DLPC Screening Site Inspection
Interview with Water Superintendent
IEPA/DPWS Division File



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE ILD 02 SITE NUMBER 981956477

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
<input checked="" type="checkbox"/> A NPDES	IL0000965	5/29/86	6/01/91	
<input type="checkbox"/> B UIC	None	—	—	
<input type="checkbox"/> C AIR	None	—	—	
<input type="checkbox"/> D RCRA	None	—	—	
<input type="checkbox"/> E RCRA INTERIM STATUS	None	—	—	
<input type="checkbox"/> F SPCC PLAN	None	—	—	
<input type="checkbox"/> G STATE <small>Specify Facility #</small>	1350450	—	—	
<input type="checkbox"/> H LOCAL <small>Specify</small>				
<input type="checkbox"/> I OTHER <small>Specify</small>				
<input type="checkbox"/> J NONE				

III. SITE DESCRIPTION

01 STORAGE/ DISPOSAL <small>(Check all that apply)</small>	02 AMOUNT	03 UNIT OF MEASURE	04 TREATMENT <small>(Check all that apply)</small>	05 OTHER
<input type="checkbox"/> A SURFACE IMPOUNDMENT			<input type="checkbox"/> A INCINERATION	<input checked="" type="checkbox"/> A BUILDINGS ON SITE
<input type="checkbox"/> B PILES			<input type="checkbox"/> B UNDERGROUND INJECTION	
<input type="checkbox"/> C DRUMS, ABOVE GROUND			<input type="checkbox"/> C CHEMICAL PHYSICAL	
<input type="checkbox"/> D TANK, ABOVE GROUND			<input type="checkbox"/> D BIOLOGICAL	
<input type="checkbox"/> E TANK, BELOW GROUND			<input type="checkbox"/> E WASTE OIL PROCESSING	
<input type="checkbox"/> F LANDFILL			<input type="checkbox"/> F SOLVENT RECOVERY	
<input type="checkbox"/> G LANDFARM			<input type="checkbox"/> G OTHER RECYCLING/RECOVERY	
<input type="checkbox"/> H OPEN DUMP			<input checked="" type="checkbox"/> H OTHER <u>PWS</u> <small>(Specify)</small>	06 AREA OF SITE <u>~ 10</u> Acres
<input checked="" type="checkbox"/> I OTHER <u>PWS</u> <small>(Specify)</small>				

07 COMMENTS

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)
☐ A ADEQUATE SECURE ☐ B MODERATE ☒ C INADEQUATE, POOR ☐ D INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

Unknown

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE ☒ YES ☐ NO
02 COMMENTS

Waste is located in the groundwater, the source is unknown.

VI. SOURCES OF INFORMATION (List specific references e.g. state lab sample analysis reports)

IEPA/DLPC Screening Site Inspection
USGS 7.5 min Topographical Map
IEPA/DLPC Division File
IEPA/DPIUS Division File



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
ILD 981956477

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY <small>Check as appropriate:</small>	02 STATUS	03 DISTANCE TO SITE												
<table border="0"><tr><td>SURFACE</td><td>WELL</td></tr><tr><td>COMMUNITY A <input type="checkbox"/></td><td>B <input checked="" type="checkbox"/></td></tr><tr><td>NON-COMMUNITY C <input type="checkbox"/></td><td>D <input checked="" type="checkbox"/></td></tr></table>	SURFACE	WELL	COMMUNITY A <input type="checkbox"/>	B <input checked="" type="checkbox"/>	NON-COMMUNITY C <input type="checkbox"/>	D <input checked="" type="checkbox"/>	<table border="0"><tr><td>ENDANGERED A <input type="checkbox"/></td><td>AFFECTED B <input checked="" type="checkbox"/></td><td>MONITORED C <input checked="" type="checkbox"/></td></tr><tr><td>D <input checked="" type="checkbox"/></td><td>E <input type="checkbox"/></td><td>F <input type="checkbox"/></td></tr></table>	ENDANGERED A <input type="checkbox"/>	AFFECTED B <input checked="" type="checkbox"/>	MONITORED C <input checked="" type="checkbox"/>	D <input checked="" type="checkbox"/>	E <input type="checkbox"/>	F <input type="checkbox"/>	A. _____ (mi) B. <u>0.3</u> (mi)
SURFACE	WELL													
COMMUNITY A <input type="checkbox"/>	B <input checked="" type="checkbox"/>													
NON-COMMUNITY C <input type="checkbox"/>	D <input checked="" type="checkbox"/>													
ENDANGERED A <input type="checkbox"/>	AFFECTED B <input checked="" type="checkbox"/>	MONITORED C <input checked="" type="checkbox"/>												
D <input checked="" type="checkbox"/>	E <input type="checkbox"/>	F <input type="checkbox"/>												

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☒ A ONLY SOURCE FOR DRINKING
☐ B DRINKING
(Other sources available)
COMMERCIAL, INDUSTRIAL, IRRIGATION
(No other water sources available)

☐ C COMMERCIAL, INDUSTRIAL, IRRIGATION
(Limited other sources available)

☐ D NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER <u>3,062</u>	03 DISTANCE TO NEAREST DRINKING WATER WELL <u>0.1</u> (mi)			
04 DEPTH TO GROUNDWATER <u>6</u> (ft)	05 DIRECTION OF GROUNDWATER FLOW <u>North to South</u>	06 DEPTH TO AQUIFER OF CONCERN <u>6</u> (ft)	07 POTENTIAL YIELD OF AQUIFER <u>Unknown</u> (gpd)	08 SOLE SOURCE AQUIFER <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO

09 DESCRIPTION OF WELLS (including usage, depth, and location relative to population and buildings)
A total of four municipal wells (#4, #6, #7, and #10) are located in the well field. Well #4 is 40 ft deep and yields 40 gpm, well #6 is 41 ft deep and yields 45 gpm, well #7 is 39 ft deep and yields 65 gpm, and well #10 is 41 feet deep with yield potential unknown.

10 RECHARGE AREA <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO COMMENTS <u>Rainfall</u>	11 DISCHARGE AREA <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO COMMENTS <u>Municipal well field</u>
--	---

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☐ A RESERVOIR, RECREATION, DRINKING WATER SOURCE
☐ B IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES
☐ C COMMERCIAL, INDUSTRIAL
☒ D NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME	AFFECTED	DISTANCE TO SITE
<u>Unnamed drainage ditch</u>	<input checked="" type="checkbox"/>	<u>5 ft</u> (ft)
_____	<input type="checkbox"/>	_____ (mi)
_____	<input type="checkbox"/>	_____ (mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN	02 DISTANCE TO NEAREST POPULATION			
<table border="0"><tr><td>ONE (1) MILE OF SITE A <u>1,500</u> <small>NO. OF PERSONS</small></td><td>TWO (2) MILES OF SITE B <u>3,062</u> <small>NO. OF PERSONS</small></td><td>THREE (3) MILES OF SITE C <u>4,253</u> <small>NO. OF PERSONS</small></td></tr></table>	ONE (1) MILE OF SITE A <u>1,500</u> <small>NO. OF PERSONS</small>	TWO (2) MILES OF SITE B <u>3,062</u> <small>NO. OF PERSONS</small>	THREE (3) MILES OF SITE C <u>4,253</u> <small>NO. OF PERSONS</small>	<u>0.1</u> (mi)
ONE (1) MILE OF SITE A <u>1,500</u> <small>NO. OF PERSONS</small>	TWO (2) MILES OF SITE B <u>3,062</u> <small>NO. OF PERSONS</small>	THREE (3) MILES OF SITE C <u>4,253</u> <small>NO. OF PERSONS</small>		
03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE <u>1,000</u>	04 DISTANCE TO NEAREST OFF SITE BUILDING <u>0.1</u> (mi)			

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural village, dense, suburban, urban area)

This well supplies water to the Villages of Nokomis and Coalton, these are rural locations which are populated by farmers + farm related industries.



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
ILD 981956477

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

A $10^{-6} - 10^{-8}$ cm/sec B $10^{-4} - 10^{-6}$ cm/sec ☒ C $10^{-2} - 10^{-3}$ cm/sec D GREATER THAN 10^{-2} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A IMPERMEABLE (Less than 10^{-6} cm/sec) ☐ B RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) ☒ C RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) ☐ D VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK

≈ 70 (ft)

04 DEPTH OF CONTAMINATED SOIL ZONE

Unknown (ft)

05 SOIL pH

Unknown

06 NET PRECIPITATION

2 (in)

07 ONE YEAR 24 HOUR RAINFALL

2.75 (in)

08 SLOPE
SITE SLOPE

3-5 %

DIRECTION OF SITE SLOPE

South west

TERRAIN AVERAGE SLOPE

3-5 %

09 FLOOD POTENTIAL

SITE SIN N/A YEAR FLOODPLAIN

10

No SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (500 ft minimum)

ESTUARINE

OTHER

A 75 (mi)

B 75 (mi)

12 DISTANCE TO CRITICAL HABITAT (Endangered species)

75 (mi)

ENDANGERED SPECIES None detected

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL

RESIDENTIAL AREAS, NATIONAL/STATE PARKS,
FORESTS, OR WILDLIFE RESERVES

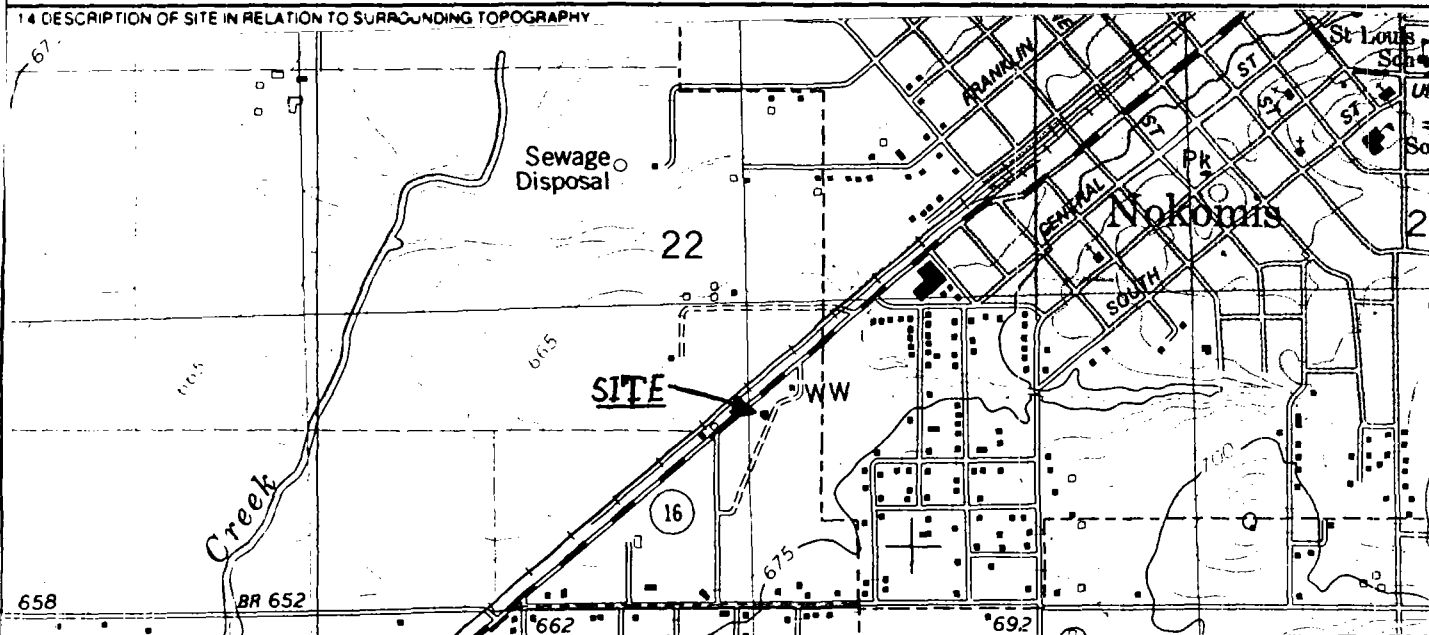
AGRICULTURAL LANDS
PRIME AG LAND AG LAND

A 0.1 (mi)

B 0.1 (mi)

C On-site (mi) D Same (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY



VII. SOURCES OF INFORMATION (Add specific references e.g. state files, sample analysis reports)

USGS 7.5 min Topographical Maps
ISGS Well logs
IEPA/DLPC Screening Site Inspection



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
ILD 981956477

II. CURRENT OWNER(S)				PARENT COMPANY (If applicable)			
01 NAME City of Nokomis		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD, etc.) 111 South Pine		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD, etc.)		11 SIC CODE	
05 CITY Nokomis		06 STATE IL	07 ZIP CODE 62075-1695	12 CITY		13 STATE	14 ZIP CODE
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD, etc.)		11 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	12 CITY		13 STATE	14 ZIP CODE
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD, etc.)		11 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	12 CITY		13 STATE	14 ZIP CODE
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD, etc.)		11 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	12 CITY		13 STATE	14 ZIP CODE
III. PREVIOUS OWNER(S) (List most recent first)				IV. REALTY OWNER(S) (If applicable, list most recent first)			
01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	05 CITY		06 STATE	07 ZIP CODE
01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	05 CITY		06 STATE	07 ZIP CODE
01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	05 CITY		06 STATE	07 ZIP CODE
V. SOURCES OF INFORMATION (Cite specific references e.g. state log, sample analysis reports.)							
Interview with Mayor Gene Addon, February 22, 1989.							



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

ILD 981956477

II. CURRENT OPERATOR (Provide if different from owner)				OPERATOR'S PARENT COMPANY (If applicable)			
01 NAME Same as owner		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER					
III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)				PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)			
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, permits analysis, reports)

Interview with Mayor Gene Aden, February 22, 1988



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
ILD 981956477

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE

There is no indication of the generation or transportation of Hazardous Waste to or from this site.

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references e.g. field notes, sampling analysis reports)

Interview with Mayor Gene Addow, February 22, 1989
Interview with Water Superintendent - Michael Finn, February 22, 1989



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

1. IDENTIFICATION

01 STATE 02 SITE NUMBER
IL 981956477

II. PAST RESPONSE ACTIVITIES

01 ☐ A WATER SUPPLY CLOSED
04 DESCRIPTION

02 DATE _____ 03 AGENCY _____

No evidence

01 ☐ B TEMPORARY WATER SUPPLY PROVIDED
04 DESCRIPTION

02 DATE _____ 03 AGENCY _____

No evidence

01 ☐ C PERMANENT WATER SUPPLY PROVIDED
04 DESCRIPTION

02 DATE _____ 03 AGENCY _____

No evidence

01 ☐ D SPILLED MATERIAL REMOVED
04 DESCRIPTION

02 DATE _____ 03 AGENCY _____

No evidence

01 ☐ E CONTAMINATED SOIL REMOVED
04 DESCRIPTION

02 DATE _____ 03 AGENCY _____

No evidence

01 ☐ F WASTE REPACKAGED
04 DESCRIPTION

02 DATE _____ 03 AGENCY _____

No evidence

01 ☐ G WASTE DISPOSED ELSEWHERE
04 DESCRIPTION

02 DATE _____ 03 AGENCY _____

No evidence

01 ☐ H ON SITE BURIAL
04 DESCRIPTION

02 DATE _____ 03 AGENCY _____

No evidence

01 ☐ I IN SITU CHEMICAL TREATMENT
04 DESCRIPTION

02 DATE _____ 03 AGENCY _____

No evidence

01 ☐ J IN SITU BIOLOGICAL TREATMENT
04 DESCRIPTION

02 DATE _____ 03 AGENCY _____

No evidence

01 ☐ K IN SITU PHYSICAL TREATMENT
04 DESCRIPTION

02 DATE _____ 03 AGENCY _____

No evidence

01 ☐ L ENCAPSULATION
04 DESCRIPTION

02 DATE _____ 03 AGENCY _____

No evidence

01 ☐ M EMERGENCY WASTE TREATMENT
04 DESCRIPTION

02 DATE _____ 03 AGENCY _____

No evidence

01 ☐ N CUTOFF WALLS
04 DESCRIPTION

02 DATE _____ 03 AGENCY _____

No evidence

01 ☐ O EMERGENCY DIKING SURFACE WATER DIVERSION
04 DESCRIPTION

02 DATE _____ 03 AGENCY _____

No evidence

01 ☐ P CUTOFF TRENCHES/SUMP
04 DESCRIPTION

02 DATE _____ 03 AGENCY _____

No evidence

01 ☐ Q SUBSURFACE CUTOFF WALL
04 DESCRIPTION

02 DATE _____ 03 AGENCY _____

No evidence



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
ILD 981956477

II. PAST RESPONSE ACTIVITIES (Continued)

01 <input type="checkbox"/> R BARRIER WALLS CONSTRUCTED 04 DESCRIPTION No evidence	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> S CAPPING/COVERING 04 DESCRIPTION No evidence	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> T BULK TANKAGE REPAIRED 04 DESCRIPTION No evidence	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> U GROUT CURTAIN CONSTRUCTED 04 DESCRIPTION No evidence	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> V BOTTOM SEALED 04 DESCRIPTION No evidence	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> W GAS CONTROL 04 DESCRIPTION No evidence	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> X FIRE CONTROL 04 DESCRIPTION No evidence	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> Y LEACHATE TREATMENT 04 DESCRIPTION No evidence	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> Z AREA EVACUATED 04 DESCRIPTION No evidence	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> 1 ACCESS TO SITE RESTRICTED 04 DESCRIPTION No evidence	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> 2 POPULATION RELOCATED 04 DESCRIPTION No evidence	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> 3 OTHER REMEDIAL ACTIVITIES 04 DESCRIPTION No evidence	02 DATE _____	03 AGENCY _____

III. SOURCES OF INFORMATION (Cite specific references e.g. state files, sample analysis reports)

IEPA/DLPC Division File
IEPA/DPWS Division File
IEPA/DLPC Screening Site Inspection, April 12, 1989.
Interview with Water Superintendent, Michael Finn, January 27, 1989.



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL0	981956477

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY ENFORCEMENT ACTION YES ☒ NO

02 DESCRIPTION OF FEDERAL STATE, LOCAL REGULATORY ENFORCEMENT ACTION

III. SOURCES OF INFORMATION Cite specific references e.g. state files, sample analysis reports

APPENDIX C

WELL LOGS

April 78

City Nokomis RFD 1 County Montgomery

Section NW NW 21 Twp. No. 10 N Range 2 W

Location (in feet from section corner) 150 N. 450 W

Owner E R Sperry Authority E R Sperry

Contractor 720 Address 200

Date drilled Aug 1931 Elev. above sea level top of well 650'

Depth 16 ft deep + 16 ft drilling 2" drill

Log 1st 3 ft is surface soil. 10' light gray clay. 2 ft porous Rock + clay mixed mostly Rock. Shaly bottom requiring pick

Were drill cuttings saved No Where filed

Size hole 4" 6" If reduced, where and how much

Casing record Brick Casing

Distance to water when not pumping 10 ft Distance to water is

feet after pumping at varied with Season G. P. M. for Season hours. couldn't pump dry in Wet

Reference point for above measurements from Top of Concrete roof

Type of pump Suction Pump Distance to cylinder 12 ft

Length of cylinder 12" Length of suction pipe below cylinder 3 ft

Length stroke 6" Speed

Hours used per day Type of power man power

Rating of motor Rating of pump in G. P. M.

Can following be measured: (1) Static water level yes

(2) Pumping level yes (3) Discharge

(4) Influence on other wells Empties them

Temperature of water Was water sample collected

Date 1/8/34 Effect of water on meters, hot water

ills, etc. Deposit in Tea Kettle

Date of Analysis Analysis No.

Recorder Jim T Hayward

Date 1/8/34

07-18313 12 - No Odors

Well 79

City Atkinson RFD 1 County Montgomery
Section SWSE 21 Twp. No. 10 N Range 2 W

Location (in feet from section corner) 250 S. 2580 W. 1/2 Sec 21

Owner Mr A. Chace Authority Mr Chace

Contractor _____ Address _____

Date drilled 20 years Elev. above sea level top of well _____

Depth 18' 6"

Log 16' Clay 2' Clay Sand & Gravel

Were drill cuttings saved no Where filed _____

Size hole 4' If reduced, where and how much _____

Casing record 13 brick

Distance to water when not pumping 12 Distance to water is _____

feet after pumping at _____ G. P. M. for _____ hours.

Reference point for above measurements Top of Well 12" above ground

Type of pump Suction Distance to cylinder 4'

Length of cylinder 12" Length of suction pipe below cylinder 14'

Length stroke 6" Speed _____

Hours used per day _____ Type of power Hand

Rating of motor _____ Rating of pump in G. P. M. _____

Can following be measured: (1) Static water level yes

(2) Pumping level yes (3) Discharge yes

(4) Influence on other wells none

Temperature of water _____ Was water sample collected yes

Date 1/18/34 Effect of water on meters, hot water

coils, etc. Little Sediment in Tea Kettle no odor

Date of Analysis _____ Analysis No. _____

Recorder Mr T. Hayward

Date 1/18/34

807-15315 12

1151 177

City Michigan County Montgomery

Section SE NW Co 22 Twp. No. 10 N Range 2 W

Location (in feet from section corner) 2430 N 1825 W

Owner Jacob J. J. J. Authority Mr. Stans Jr

Contractor _____ Address _____

Date drilled _____ Elev. above sea level top of well _____

Depth 18'

Log Gravel

Slope N + E

Were drill cuttings saved _____ Where filed _____

Size hole 4' If reduced, where and how much _____

Casing record Brick Concrete Top

Distance to water when not pumping 15' Distance to water is _____

feet after pumping at _____ G. P. M. for _____ hours.

Reference point for above measurements Top of well 15"

Type of pump Submersible Distance to cylinder 4'

Length of cylinder 12" Length of suction pipe below cylinder 10'

Length stroke 6" Speed _____

Hours used per day _____ Type of power _____

Rating of motor _____ Rating of pump in G. P. M. _____

Can following be measured: (1) Static water level yes

(2) Pumping level yes (3) Discharge yes

(4) Influence on other wells yes

Temperature of water _____ Was water sample collected _____

Date _____ Effect of water on meters, hot water

coils, etc. _____

Date of Analysis _____ Analysis No. _____

Recorder W T Hayward

Date 3/7/34

Well 274

City Montgomery County Montgomery

Section SW 1/4 NW 1/4 Sec 26 Twp. No. 10 N Range 2 W

Location (in feet from section corner) 2440' N 300' E

Owner John R. R. R. Authority

Contractor Address

Date drilled 1/27 Elev. above sea level top of well

Depth 15 ft

Log 2 ft. Clay 7 feet Sand & Gravel

Were drill cuttings saved Where filed

Size hole 5 ft If reduced, where and how much

Casing record Brick

Distance to water when not pumping 8' Distance to water is —

feet after pumping at — G. P. M. for — hours.

Reference point for above measurements

Type of pump Section pump Distance to cylinder 4'

Length of cylinder 12" Length of suction pipe below cylinder

Length stroke 1" Speed —

Hours used per day — Type of power —

Rating of motor — Rating of pump in G. P. M. —

Can following be measured: (1) Static water level yes

(2) Pumping level yes (3) Discharge yes

(4) Influence on other wells none

Temperature of water — Was water sample collected —

Date 1/18/34 Effect of water on meters, hot water

coils, etc. W O + A

Date of Analysis Analysis No. 3

Recorder John T. Hayward

Date 1/18/34

Very good Water
no odor

Well 276

City Rockville RFD 4 County Montgomery
 Section E 1/2 SW 1/4 Sec 26 Twp. No. 10 N Range 2 W

Location (in feet from section corner) 430' S. 1400 W

Owner Ed Haples Authority _____

Contractor _____ Address _____

Date drilled 1906 Elev. above sea level top of well _____

Depth 21'

Log 2' Soil 18' Clay 1' Hard Pan

Were drill cuttings saved _____ Where filed _____

Size hole 4 1/2" If reduced, where and how much _____

Casing record Brick Cement Top

Distance to water when not pumping 5' Distance to water is _____

feet after pumping at _____ G. P. M. for _____ hours.

Reference point for above measurements _____

Type of pump Force Distance to cylinder 4' 50 PSI

Length of cylinder 8" Length of suction pipe below cylinder 16 1/2'

Length stroke 4" Speed 4

Hours used per day _____ Type of power 50

Rating of motor _____ Rating of pump in G. P. M. 20

Can following be measured: (1) Static water level yes

(2) Pumping level yes (3) Discharge yes

(4) Influence on other wells none

Temperature of water _____ Was water sample collected _____

Date 2/5/34 Effect of water on meters, hot water

coils, etc. Lime Scale forms in Tea Kettle No Odor

Date of Analysis _____ Analysis No. _____

Recorder H. T. Haywood

Date 2/5/34

Well 278

City Notes in RFD 4 County _____

Section NE NE 27 Twp. No. 10 N Range 2 E

Location (in feet from section corner) 150' E & 100' N

Owner W F Halbert Authority W F Halbert

Contractor _____ Address _____

Date drilled _____ Elev. above sea level top of well _____

Depth 20.18

Log 4 ft Sand yellow & 7 Sand & clay

Were drill cuttings saved _____ Where filed _____

Size hole 4" If reduced, where and how much _____

Casing record 131 ft

Distance to water when not pumping 10' Distance to water is _____

feet after pumping at _____ G. P. M. for _____ hours.

Reference point for above measurements _____

Type of pump Suction pump Distance to cylinder 4'

Length of cylinder 6' Length of suction pipe below cylinder _____

Length stroke 6' Speed _____

Hours used per day _____ Type of power _____

Rating of motor _____ Rating of pump in G. P. M. _____

Can following be measured: (1) Static water level yes

(2) Pumping level yes (3) Discharge yes

(4) Influence on other wells no

Temperature of water _____ Was water sample collected yes

Date _____ Effect of water on meters, hot water

coils, etc. _____

Date of Analysis _____ Analysis No. _____

Recorder W F Halbert

Date 2/5/34

Well 280

City Nottonia County Montgomery

Section NENE Sec 27 Twp. No. 10 N Range 22 W

Location (in feet from section corner) 300 S 2400 W

Owner Ill Coal Corp Authority Montgomery

Contractor _____ Address _____

Date drilled about 1915 Elev. above sea level top of well _____

Depth 30'

Log 3' Soil 11 Clay 8' Hardpan remainder Sand

Large well equipped to supply mine with water

Were drill cuttings saved _____ Where filed _____

Size hole 2' If reduced, where and how much _____

Casing record Screen

Distance to water when not pumping 18' Distance to water is _____

feet after pumping at _____ G. P. M. for _____ hours.

Reference point for above measurements Top of well covered with heavy block

Type of pump centrifugal Distance to cylinder _____

Length of cylinder _____ Length of suction pipe below cylinder _____

Length stroke _____ Speed _____

Hours used per day _____ Type of power _____

Rating of motor _____ Rating of pump in G. P. M. _____

Can following be measured: (1) Static water level _____

(2) Pumping level _____ (3) Discharge _____

(4) Influence on other wells _____

Temperature of water _____ Was water sample collected _____

Date _____ Effect of water on meters, hot water

coils, etc. _____

Date of Analysis _____ Analysis No. _____

Recorder W. T. Hayward

Date 2/5/34

Well 282

City Rockville County Montgomery

Section NWNE 28 Twp. No. 10N Range 2W

Location (in feet from section corner) 1780 E 150 N

Owner Anton Stelack Authority

Contractor Address

Date drilled 1/9/18 Elev. above sea level top of well

Depth 33'

Log Clay to Hard Pan 18" Then Through Hard Pan into Sand

Were drill cuttings saved Where filed

Size hole 4 1/2" If reduced, where and how much

Casing record Brick 8'

Distance to water when not pumping 15' Distance to water is 15'

feet after pumping at G. P. M. for hours.

Reference point for above measurements Top of well 12" above ground Concrete Top

Type of pump Suction Distance to cylinder 12'

Length of cylinder 12" Length of suction pipe below cylinder 19'

Length stroke 6" Speed

Hours used per day Type of power N 021

Rating of motor Rating of pump in G. P. M. 3 030

Can following be measured: (1) Static water level yes

(2) Pumping level yes (3) Discharge yes

(4) Influence on other wells None

Temperature of water Was water sample collected

Date 1/18/34 Effect of water on meters, hot water

coils, etc. Admiration of time forms in Kettle as Odor

Date of Analysis Analysis No.

Recorder John T. Hayward

Date 1/18/34

Well 28A

City Nokomis County MontgomerySection S 1/4 SW 28 Twp. No. 10 N Range P 12 WLocation (in feet from section corner) 15 E 900 WOwner Geo Pyle Authority Mrs Pyle

Contractor _____ Address _____

Date drilled _____ Elev. above sea level top of well _____

Depth 17' 5" to TopLog 13' clay 4 Sand & gravelWere drill cuttings saved yes Where filed _____Size hole 4 1/2" If reduced, where and how much _____Casing record 13' brick Concrete TopDistance to water when not pumping 2' 5" Distance to water is 15'feet after pumping at runs dry G. P. M. for _____ hours.

Reference point for above measurements _____

Type of pump Submersible pump Distance to cylinder 4'Length of cylinder 12' Length of suction pipe below cylinder 12'Length stroke 6" Speed _____Hours used per day _____ Type of power Hand

Rating of motor _____ Rating of pump in G. P. M. _____

Can following be measured: (1) Static water level yes(2) Pumping level yes (3) Discharge _____(4) Influence on other wells none

Temperature of water _____ Was water sample collected _____

Date 1/10/34 Effect of water on meters, hot watercoils, etc. No sediment

Date of Analysis _____ Analysis No. _____

Recorder Mr T HaywardDate 1/10/34

APPENDIX D

BORING LOGS FOR ON-SITE MONITOR WELLS

Site File No: _____ County Montgomery Boring No. B-1 Monitor Well No. G101

Site File Name Nokoni's Muni. Well #6 Surface Elev. _____ Completion Depth _____

Fed. ID No. _____ Auger Depth 35.0' Rotary Depth _____

Quadrangle Nokomis Sec. 22 T. 10N R. 2W Date: Start 3/8/89 Finish 3/8/89

Boring Location northwest of muni #6, along
Route 16

Drilling Equipment CME 75, 3 3/4" augers, 5' cont. sampler, 2' Split Spoon

SAMPLES						Personnel
Sample No	Sample Type	Sample Recovery	Penetrometer	N Values (Blows)	QVA or HNU readings	G - S. VanHook D - K. Bostie H - P. Colantino I - R. Irwin
						REMARKS
1	SCS				< Bk	
2	SCS				< Bk	
3	SCS				< Bk	
4	SCS				< Bk	
5	SCS	0%				
						- sample from lead auger



Illinois Environmental Protection Agency

Field Boring Log

Page 1 of 1Site File No. _____ County Montgomery Boring No. B-3 Monitor Well No. G402Site File Name Nokomis Muni Well #6 Surface Elev. _____ Completion Depth _____Fed ID No. _____ Auger Depth 35' Rotary Depth _____Quadrangle Nokomis Sec. 22 T. 10N R. 2W Date: Start 3/14/89 Finish 3/14/89Boring Location East side of site, behind lime pilesDrilling Equipment CME 75, with 3 3/4" augers, 5' cont. sampler, 2'SS

SAMPLES

Personnel

G - S. Van Hook
D - R. Basie
H - R. Colantino
H - R. Irwin

Elev	DESCRIPTION	Depth in feet	Sample No	Sample Type	Sample Recovery	Penetrometer	N Valves (Blows)	QVA or HNU readings	REMARKS
	0'-2.7': Soil, black								
	2.7'-5.2': clay Till, gray with yellowish brn. mottling, trace sand & gravel drk. brn. staining, root	5'	1	5'ss				4	
	5'-6.0': same								
	6'-7.2': clay Till, dark gray with sand, trace yellowish brn. mottling	10'	2	5'ss				<8k	
	7.2'-9.6': sandy clay Till, dark gray, trace yellowish brn. mottling								
	10'-12.6': same, some mottling								
	12.6'-13.2': same, trace mottling and gravel	15'	3	5'ss				<8k	
	13.2'-14.0': same, trace mottling								
	14.0'-14.55': clayey sand, dark brownish								
	15'-16.6': sand, (.01"-.03"), brownish gray	20'	4	5'ss				<8k	
	20'-21.5': sand, (.01"-.03"), brownish gray with coarse sand and fine-med. gravel	25'	5	7'ss				3, 1.2	2: 0.5' of sluff
		30'						<8k	2: sluff same as 20-21.5' only coarser (2.5' sluff)
	30'-31': sand, gray, poorly sorted with gravel and silt/clay	35'	6	2'ss				12.8	2: 1.0' sluff
	End of Boring								



Illinois Environmental Protection Agency

Monitor Well Construction

County: Montgomery

Boring No.: B-1

Site File Name: Nahomis Muni Well #6

Monitor Well No.: G101

Site File No.: _____

Prepared By: S. VanHooles

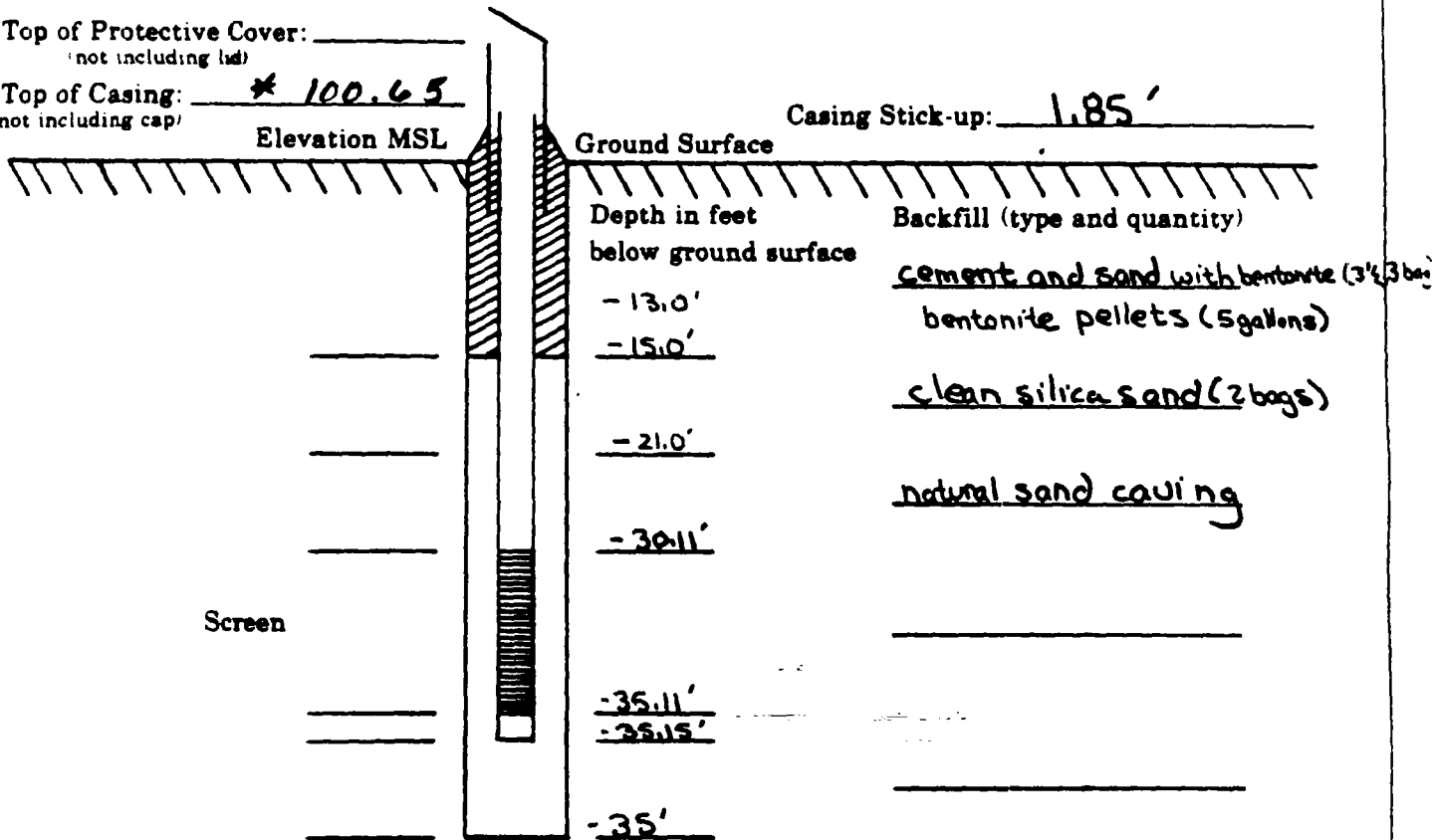
Monitor Well Location: northwest of muni #6, along route 16

Top of Protective Cover: _____
(not including lid)

Top of Casing: * 100.65
(not including cap)

Elevation MSL

Casing Stick-up: 1.85'



Casing Type and Size: Johnson type 304 stainless steel, 2" I.D.

Screen Type and Size: Johnson type 304, 5' section, 2" I.D., 0.01 inch slot size

Casing Field Measurements:

bottom of screen 104'

top of screen 5.04'

1st joint 5.13', 4.98', 5.0'

5.0', 5.0', 5.0'

4.99', 1.9'

Total Length of Casing 37.0'

Plug (type) _____

Cap (type) _____

Protective Cover (type and size) 5' x 4" steel with locking cover

* Not to msl



Illinois Environmental Protection Agency

Monitor Well Construction

County: Montgomery

Boring No.: B-3

Site File Name: Nokomis Muni #6

Monitor Well No.: G102

Site File No.: _____

Prepared By: S. VanHook

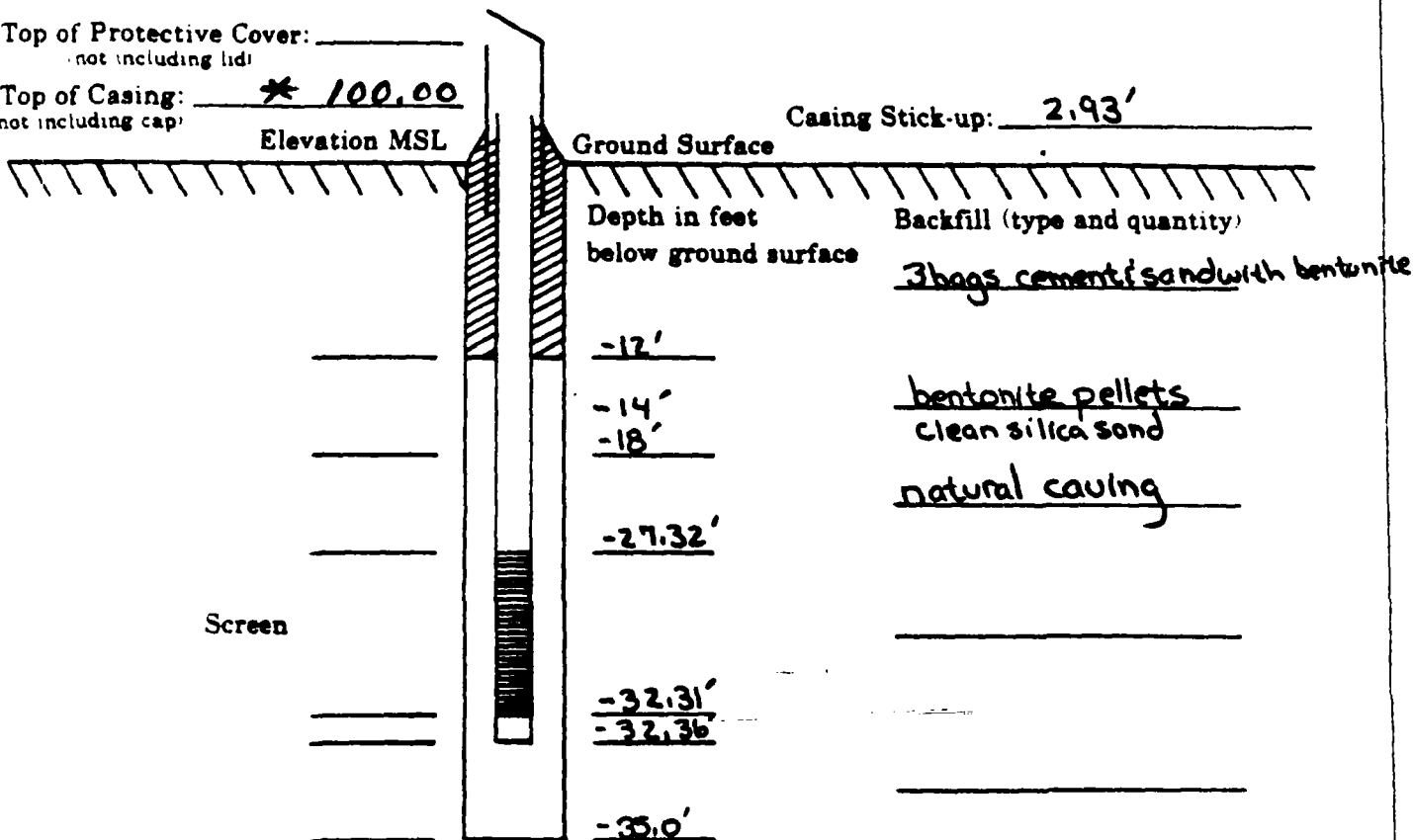
Monitor Well Location East side of site, behind lime piles

Top of Protective Cover: _____
(not including lid)

Top of Casing: * 100.00
(not including cap)

Elevation MSL

Casing Stick-up: 2.93'



Casing Type and Size: Johnson type 304 stainless steel, 2" ID

Screen Type and Size: Johnson type 304, 5' section, 2" ID, 0.01 inch slot size

Casing Field Measurements:

bottom of screen 1.05'

top of screen 5.04'

1st joint 5.12', 5.0', 5.02'

5.01', 5.03', 5.0'

4.97' (+1.14')

Total Length of Casing 35.29

Plug (type) _____

Cap (type) _____

Protective Cover (type and size) 5'x4" steel with

locking cover

* Not to msl



Illinois Environmental Protection Agency

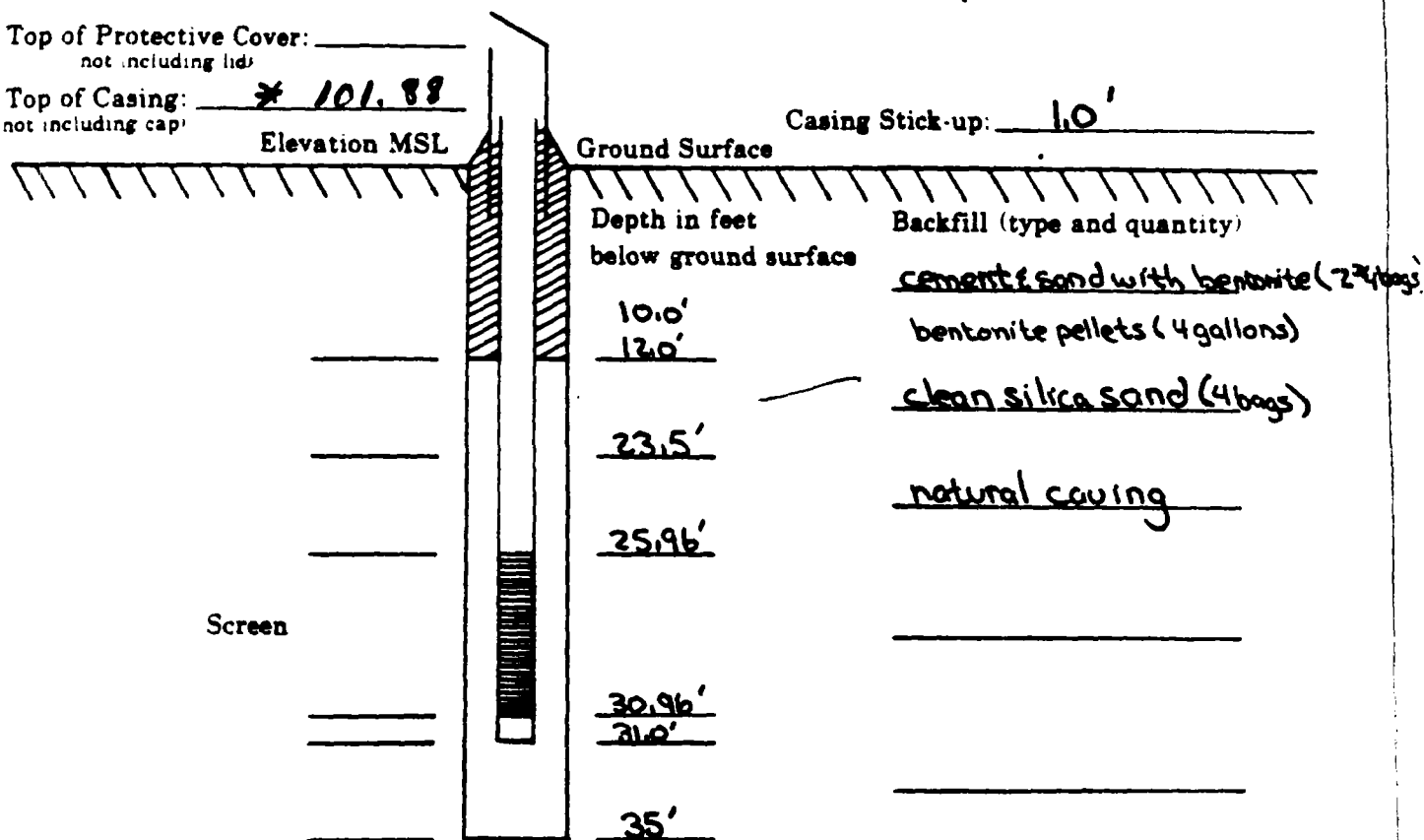
Monitor Well Construction

County: MontgomeryBoring No.: B-2Site File Name: Nakomis Muni Well #6Monitor Well No.: G103

Site File No.: _____

Prepared By: S. VanHookMonitor Well Location East side of site, behind lime pilesTop of Protective Cover: _____
not including lidTop of Casing: * 101.88
not including cap

Elevation MSL

Casing Stick-up: 1.0'Casing Type and Size: Johnson type 304 stainless steel, 2" IDScreen Type and Size: Johnson type 304, 5' section, 2" ID, 0.01 inch slot size

Casing Field Measurements:

bottom of screen .04'top of screen 5.04'1st joint 5.13'; 4.98'; 5.02'4.98'; 4.98'; 4.99'1.92'Total Length of Casing 32.0'

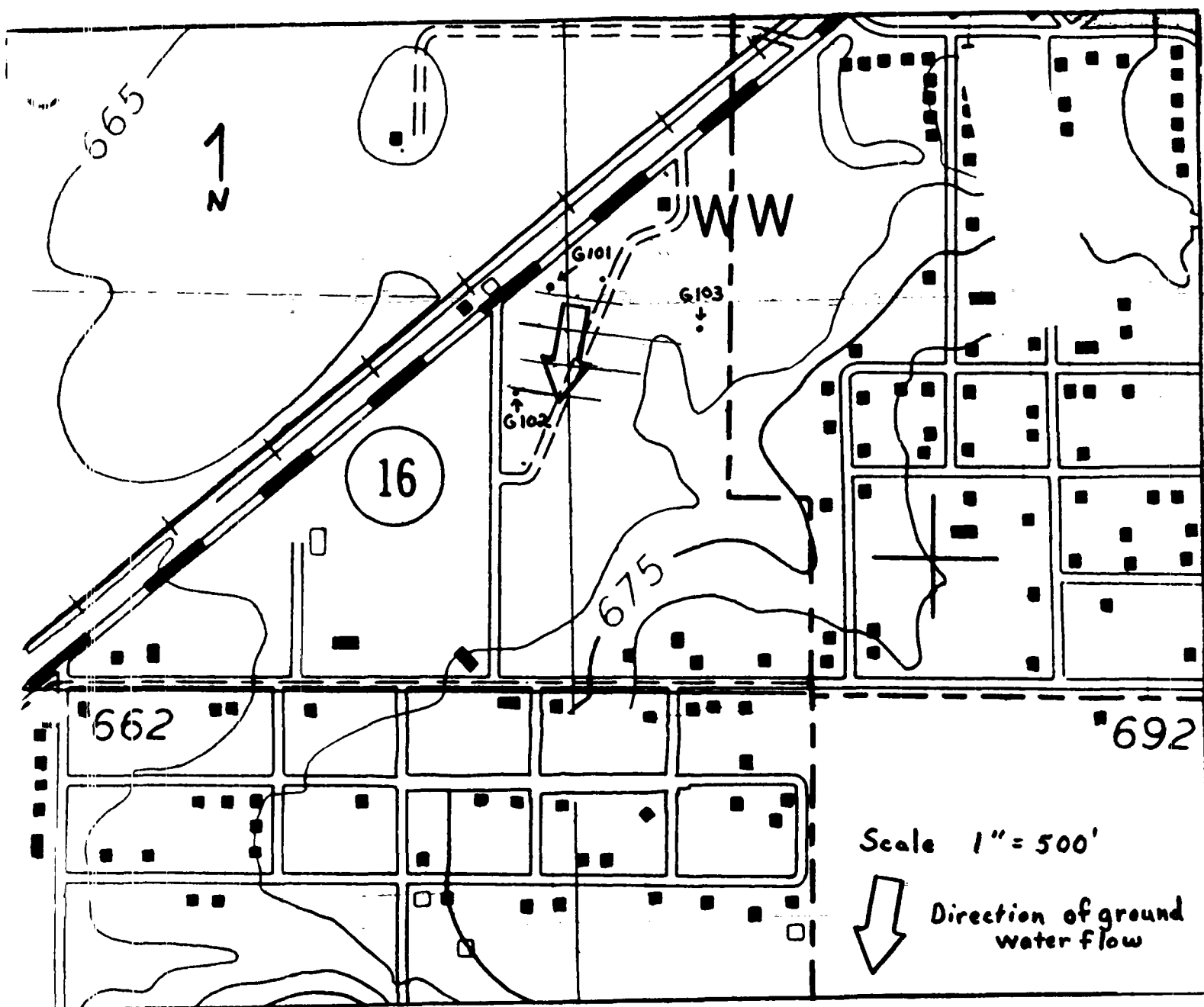
Plug (type) _____

Cap (type) _____

Protective Cover (type and size) 5' x 4" steel with locking cover* Not to msl

APPENDIX E

GROUNDWATER FLOW DIAGRAMS



Ground Water Monitor Well Locations and
Piezometric Surface Map
Nokomis Quadrangle
Nokomis, Illinois



Site File Number: 41350000000 / IL0981956477

Site File Number: 41350000000 / IL0981956477

Weather Conditions: Cool - Intermittent rain

****6.13 ft. per gal for a 2" diameter well**

APPENDIX F

TARGET COMPOUND LIST

TARGET COMPOUND LIST

Volatile Target Compounds

Compound	Water CRDL	Soil/Solid CRDL
1. chloromethane	10 ug/l	10 ug/kg
2. bromomethane	10	10
3. vinyl chloride	10	10
4. chloroethane	10	10
5. methylene chloride	5	5
6. acetone	10	10
7. carbon disulfide	5	5
8. 1,1-dichloroethene	5	5
9. 1,1-dichloroethane	5	5
10. t-1,2-dichloroethene	5	5
11. 1,2-dichloropropane	5	5
12. chloroform	5	5
13. 1,2-dichloroethane	5	5
14. 2-butanone	10	10
15. 1,1,1-trichloroethane	5	5
16. carbon tetrachloride	5	5
17. vinyl acetate	10	10
18. dichlorobromomethane	5	5
19. c-1,3-dichloropropene	5	5
20. trichloroethene	5	5
21. benzene	5	5
22. chlorodibromomethane	5	5
23. 1,1,2-trichloroethane	5	5
24. t-1,3-dichloropropene	5	5
25. 2-chloroethyl vinyl ether	10	10
26. bromoform	5	5
27. 2-hexanone	10	10
28. 4-methyl-2-pentanone	10	10
29. 1,1,2,2-tetrachloroethane	5	5
30. tetrachloroethene	5	5
31. toluene	5	5
32. chlorobenzene	5	5
33. ethylbenzene	5	5
34. styrene	5	5
35. total xylenes	15	15

CRDL - Contract Required Detection Limit

Base/Neutral Target Compounds

Compound	Water CRDL	Soil/Solid CRDL
1. Hexachloroethane	10 ug/l	330 ug/kg
2. Bis (2-chloroethyl) ether	10	330
3. Benzyl Alcohol	10	330
4. Bis (2-chloroisopropyl) ether	10	330
5. N-nitrosodi-n-propylamine	10	330
6. Nitrobenzene	10	330
7. Hexachlorobutadiene	10	330
8. 2-Methylnaphthalene	10	330
9. 1,2,4-trichlorobenzene	10	330
10. Isophorone	10	330
11. Naphthalene	10	330
12. 4-Chloroaniline	10	330
13. Bis (2-chloroethoxy) methane	10	330
14. Hexachlorocyclopentadiene	10	330
15. 2-chloronaphthalene	10	330
16. 2-Nitroaniline	50	1600
17. Acenaphthylene	10	330
18. 3-Nitroaniline	50	1600
19. Acenaphthene	10	330
20. Dibenzofuran	10	330
21. Dimethylphthalate	10	330
22. 2,6-Dinitrotoluene	10	330
23. Fluorene	10	330
24. 4-Nitroaniline	50	1600
25. 4-Chlorophenyl-phenyl ether	10	330
26. 2,4-Dinitrotoluene	10	330
27. Diethylphthalate	10	330
28. N-Nitrosodiphenylamine	10	330
29. Hexachlorobenzene	10	330
30. Phenanthrene	10	330
31. 4-Bromophenyl-phenyl ether	10	330
32. Anthracene	10	330
33. Dibutylphthalate	10	330
34. Fluoranthene	10	330
35. Pyrene	10	330
36. Butyl benzyl phthalate	10	330
37. Bis (2-ethylhexyl) phthalate	10	330
38. Chrysene	10	330
39. Benzo (a) anthracene	10	330
40. 3,3'-Dichlorobenzidene	20	660
41. Di-n-octyl phthalate	10	330
42. Benzo (b) fluoranthene	10	330
43. Benzo (k) fluoranthene	10	330
44. Benzo (a) pyrene	10	330
45. Indeno (1,2,3-cd) pyrene	10	330
46. Dibenzo (a,h) anthracene	10	330
47. Benzo (g,h,i) perylene	10	330
48. 1,2-Dichlorobenzene	10	330
49. 1,3-Dichlorobenzene	10	330
50. 1,4-Dichlorobenzene	10	330

Acid Target Compounds

Compound	Water CRDL	Soil/Solid CRDL
1. Benzoic Acid	50 ug/l	1600 ug/kg
2. Phenol	10	330
3. 2-chlorophenol	10	330
4. 2-nitrophenol	50	1600
5. 2-methylphenol	10	330
6. 2,4-dimethylphenol	10	330
7. 4-methylphenol	10	330
8. 2,4-dichlorophenol	10	330
9. 2,4,6-trichlorophenol	10	330
10. 2,4,5-trichlorophenol	50	1600
11. 4-chloro-3-methylphenol	10	330
12. 2,4-dinitrophenol	50	1600
13. 2-methyl-4,6-dinitrophenol	50	1600
14. Pentachlorophenol	50	1600
15. 4-nitrophenol	50	1600

Pesticide Target Compounds

Compound	Water CRDL	Soil/Solid CRDL
1. alpha-BHC	.05 ug/l	8.0 ug/kg
2. beta-BHC	.05	8.0
3. delta-BHC	.05	8.0
4. Lindane (gamma-BHC)	.05	8.0
5. Heptachlor	.05	8.0
6. Aldrin	.05	8.0
7. Heptachlor epoxide	.05	8.0
8. Endosulfan I	.05	8.0
9. 4,4'-DDE	.10	16.0
10. Dieldrin	.10	16.0
11. Endrin	.10	16.0
12. 4,4'-DDD	.10	16.0
13. Endosulfan II	.10	16.0
14. 4,4'-DDT	.10	16.0
15. Endrin aldehyde	.10	16.0
16. Endosulfan sulfate	.10	16.0
17. Methoxychlor	.50	80.0
18. Chlordane	.50	80.0
19. Toxaphene	.50	80.0
20. Arochlor-1016	1.0	160.0
21. Arochlor-1221	.50	80.0
22. Arochlor-1232	.50	80.0
23. Arochlor-1242	.50	80.0
24. Arochlor-1248	.50	80.0
25. Arochlor-1254	1.0	160.0
26. Arochlor-1260	1.0	160.0

Inorganic Target Compounds

Metals Analyses (CRDL)-ug/l*

Aluminum	200
Antimony	60
Arsenic	10
Barium	200
Beryllium	5
Cadmium	5
Chromium	10
Cobalt	50
Copper	25
Iron	100
Lead	5
Manganese	15
Mercury	0.2
Nickel	40
Selenium	5
Silver	10
Thallium	10
Vanadium	50
Zinc	20

Other Inorganics

Cyanide
Sulfide
Phenols
Nitrogen-Ammonia
Nitrogen, Total Kjeldahl
Nitrogen-Nitrate
Boron
pH

*Any analytical method specified in the Quality Assurance Project Plan (QAPP) may be utilized as long as the documented instrument or method detection limits meet the Contract Required Detection Level requirements. Higher detection levels may only be used in the following circumstance:

If the sample concentration exceeds two times the detection limit of the instrument or method in use, the value may be reported even though the instrument or method detection limit may not equal the CRDL. This is illustrated in the example below:

For lead:

Method in use -- ICP

Instrument Detection Limit (IDL) = 40

Sample Concentration = 85

Contract Required Detection Level (CRDL) = 5

The value of 85 may be reported even though instrument detection limit is greater than required detection level. The instrument or method detection limit must be documented as described in Form IIIX.

These CRDL are the instrument detection limits obtained in pure water that must be met using ICP/Flame AA or Furnace AA. The detection limits for samples may be considerably higher depending on the sample matrix.

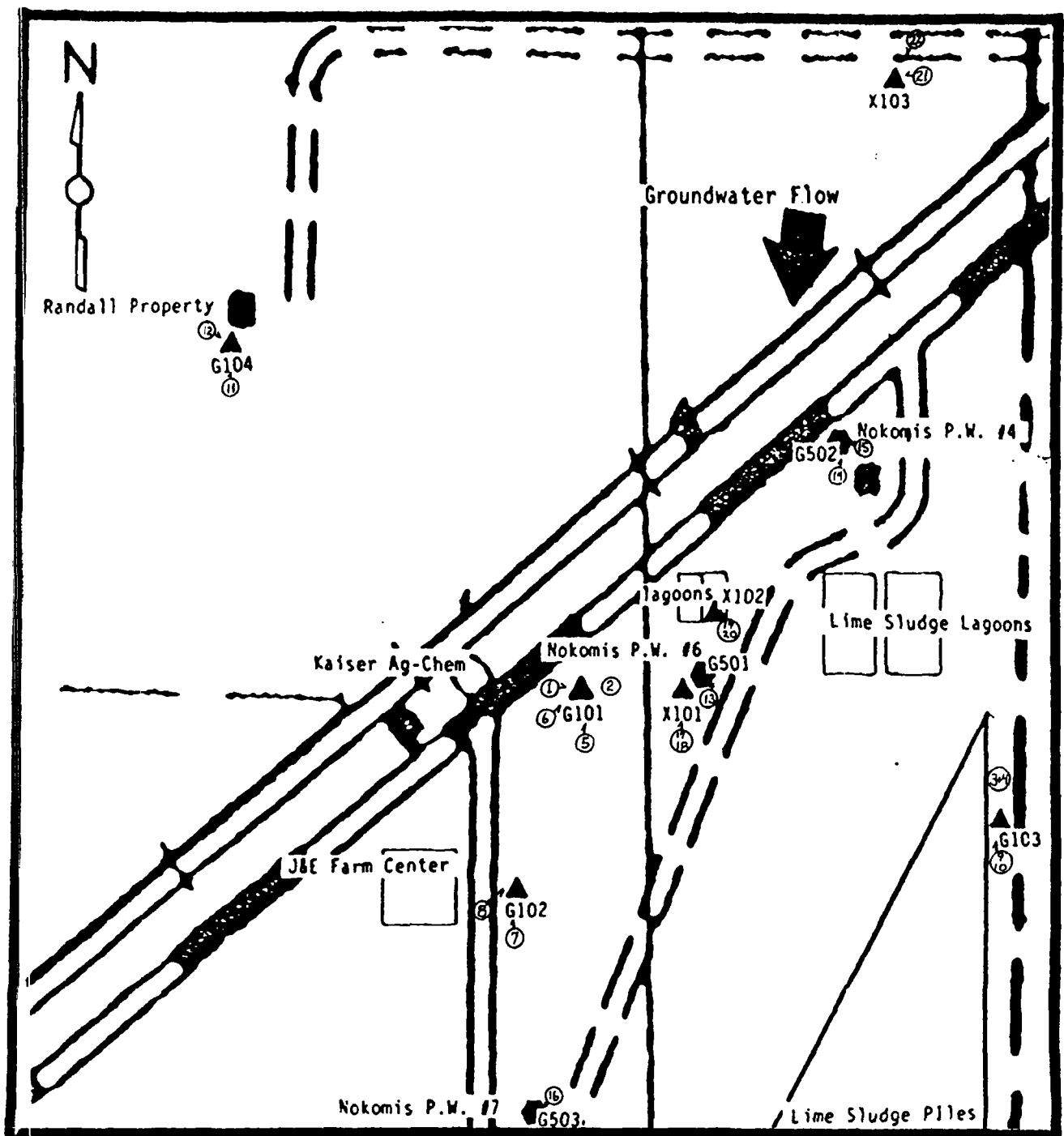
APPENDIX G

ANALYTICAL RESULTS FROM IEPA COLLECTED SAMPLES

Appendix G is located in
Volume 2 of SSI Package

APPENDIX H

IEPA SITE PHOTOGRAPHS



Source: IEPA, 1989.

MAP NOT TO SCALE

PHOTOGRAPHIC LOCATION MAP

DATE: 3-8-89

TIME: 2:30 p.m.

Photograph by:

Gary L. Reside

Location:

Nokomis Public Well #6

ILD981956477

Comments: Picture taken toward

Drilling of monitoring well

G101. Note OVA readings being
taken.

#1



DATE: 3-8-89

TIME: 3:10 p.m.

Photograph by:

Gary L. Reside

Location: Nokomis P.W. #6

ILD981956477

Comments: Picture taken toward

Decontamination procedures

for building materials for
monitoring well G101.

#2



DATE: 3-9-89

TIME: 10:45 AM.

Photograph by:

Nary L. Reside

Location:

Nokomis Public Well #6

ILD981956477

Comments: Picture taken toward

OVA readings being taken

from core samples, at 6103.

3



DATE: 3-9-89

TIME: 10:45 A.M.

Photograph by:

Nary L. Reside

Location: Nokomis P.W. #6

Nokomis, IL

Comments: Picture taken toward

OVA readings taken

from core samples.

4



DATE: 4-12-89

TIME: 5:35 pm

Photograph by:

Gary L. Reside

Location:

Nokomis Public Well #6

ILD981956477

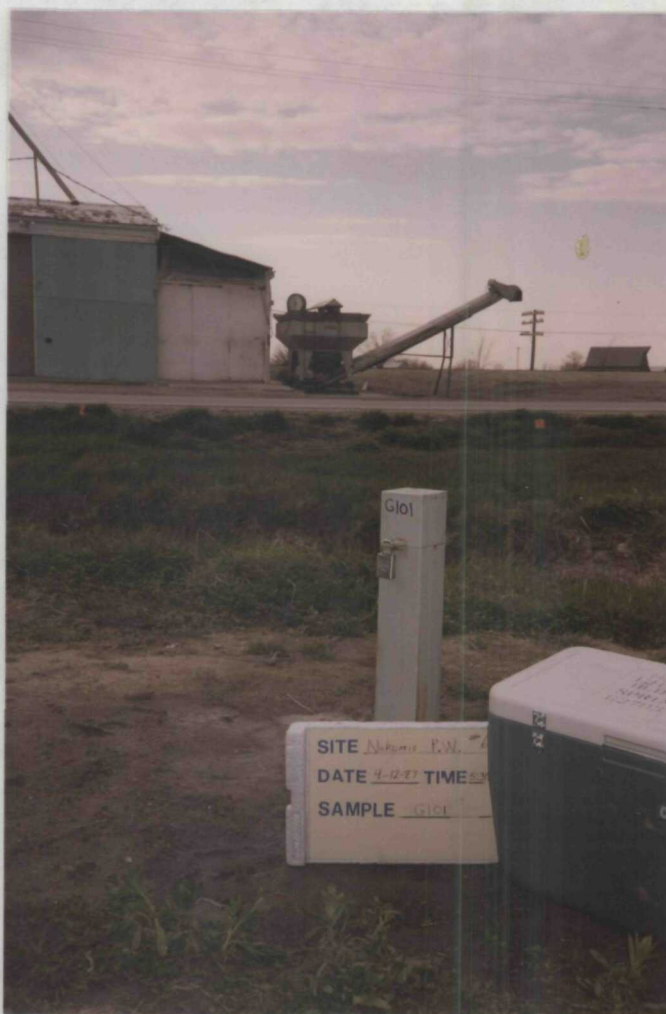
Comments: Picture taken toward

View of monitoring well G101

with Kaiser Estech Farm

Agricultural Chemicals and Railroad

tracks in background #5



DATE: 4-12-89

TIME: 5:35

Photograph by:

Gary L. Reside

Location: Nokomis P.W. #6

ILD981956477

Comments: Picture taken toward

View of Monitoring well G101

with the Nokomis Public

Water Plant in the background.

#6



DATE: 4-12-89

TIME: 2:30 p.m.

Photograph by:

Gary L. Reside

Location:

Nokomis Public Well #6

ILD981956477

Comments: Picture taken toward

View of monitoring well

G102.

#7



DATE: 4-12-89

TIME: 2:30 p.m.

Photograph by:

Gary L. Reside

Location: Nokomis P.W. #6

ILD981956477

Comments: Picture taken toward

View of monitoring well G102,

with the Nokomis Public Water

Plant in the background.

#8



DATE: 4-12-89

TIME: 4:30 p.m.

Photograph by:

Gary L. Reside

Location:

Nokomis Public Well #6

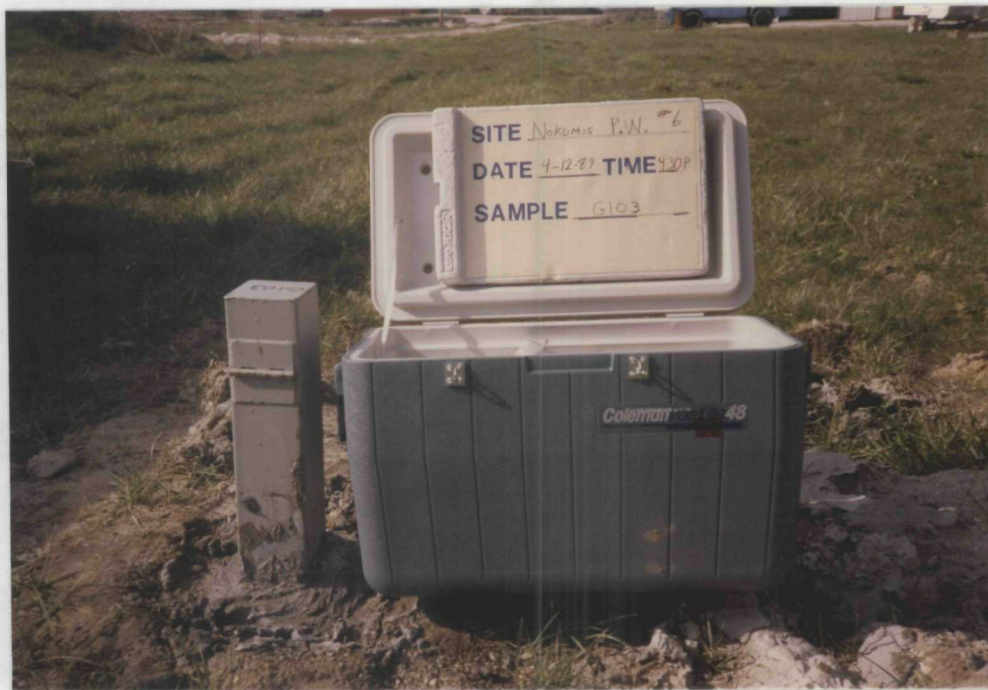
ILD981956477

Comments: Picture taken toward

View of monitoring well

G103.

#9



DATE: 4-12-89

TIME: 4:30 p.m.

Photograph by:

Gary L. Reside

Location: Nokomis P.W. #6

ILD981956477

Comments: Picture taken toward

View of monitoring well G103

with the Nokomis Public Water
Plant in the background

#10



DATE: 4-12-89

TIME: 11:00 AM

Photograph by:

Gary L. Reside

Location:

Nokomis Public Well #6

ILD981956477

Comments: Picture taken toward

View of sampling point G104.

Private well on the Gertrude

Randall estate.

#11



DATE: 4-12-89

TIME: 11:00 AM

Photograph by:

Gary L. Reside

Location: Nokomis P.W. #6

ILD981956477

Comments: Picture taken toward

View of sampling point G104

with the Nokomis Public Water

Plant in the background (Southeast)

#12



DATE: 4-12-89

TIME: 12:30 p.m.

Photograph by:

Gary L. Reside

Location:

Nokomis Public Well #6

ILD981956477

Comments: Picture taken toward

View of sampling point

G501 (Public Well #6). Sample

taken from faucet.

#13



DATE: 4-12-89

TIME: 1:30 p.m.

Photograph by:

Gary L. Reside

Location: Nokomis P.W. #6

ILD981956477

Comments: Picture taken toward

View of sampling point

G502 (Public Well #4).

#14



DATE: 4-12-89

TIME: 1:30 pm

Photograph by:

Gary L. Reside

Location:

Nokomis Public Well #6

ILD981956477

Comments: Picture taken toward

View West of sampling point

G-502 (Public Well #4). I-4 Route

16 and the Kaiser Estech

Ag Chem plant in background #15



DATE: 4-12-89

TIME: 1:10 pm

Photograph by:

Gary L. Reside

Location: Nokomis P.W. #6

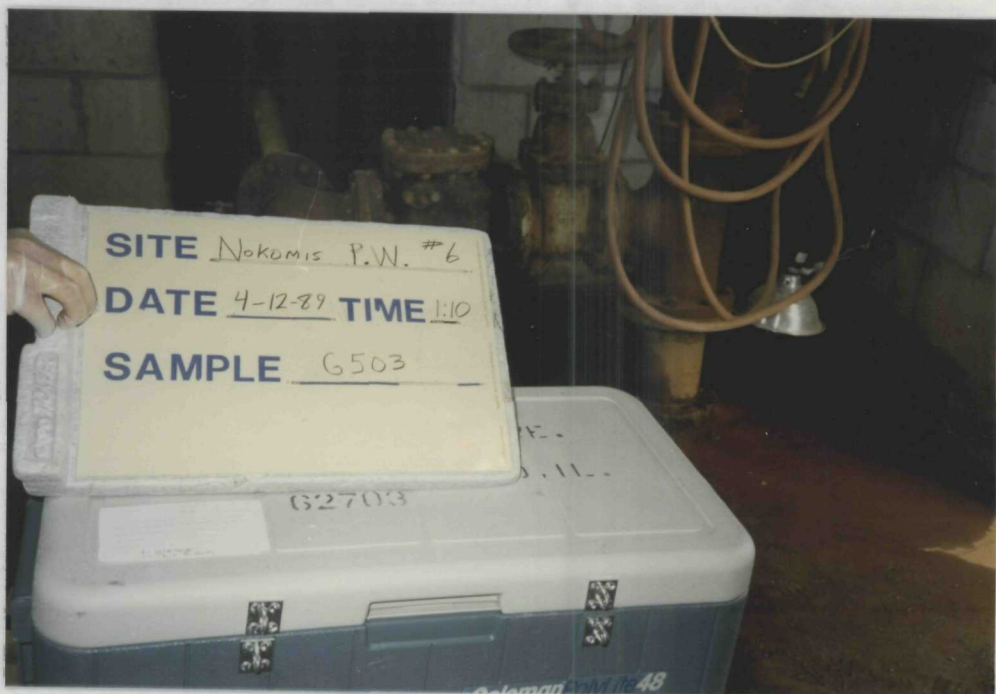
ILD981956477

Comments: Picture taken toward

View of sampling point G-503

(Public Well #7).

#16



DATE: 4-12-89

TIME: 9:30 A.M.

Photograph by:

Gary L. Reside

Location:

Nokomis Public Well #6

ILD981956477

Comments: Picture taken toward

Sampling point X101

#17



DATE: 4-12-89

TIME: 9:30 A.M.

Photograph by:

Gary L. Reside

Location: Nokomis P.W. #6

ILD981956477.

Comments: Picture taken toward

View of sampling point X101.

Note Public Well #6 immediately
east of sampling point and the

Nokomis Public Water Plant in background.

#18



DATE: 4-12-89

TIME: 9:50 A.M.

Photograph by:

Gary L. Reside

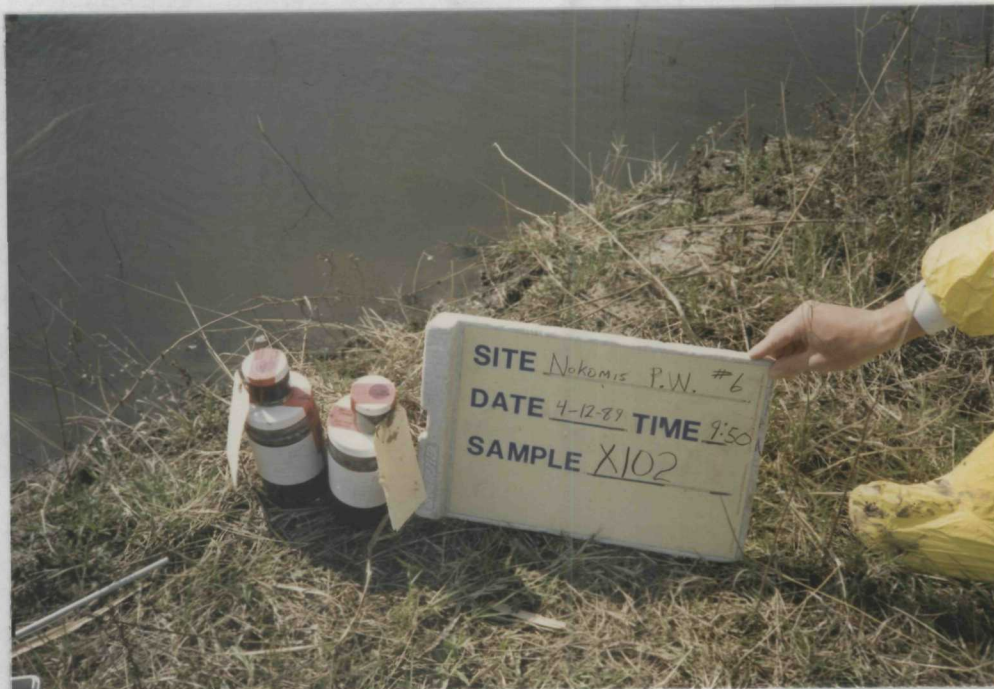
Location:

Nokomis Public Well #6

ILD981956477

Comments: Picture taken toward

Sampling point X102



#19

DATE: 4-12-89

TIME: 9:50 A.M.

Photograph by:

Gary L. Reside

Location: Nokomis P.W. #6

ILD981956477

Comments: Picture taken toward

View of sampling point X102.

Note Nokomis Public Water Plant

(brick building) in upper left corner.



#20

DATE: 4-12-89

TIME: 10:30 A.M.

Photograph by:

Gary L. Reside

Location:

Nokomis Public Well #6

ILD981956477

Comments: Picture taken toward

Sample point X103. Note:

Huber residence in background.

#21



DATE: 4-12-89

TIME: 10:30 A.M.

Photograph by:

Gary L. Reside

Location: Nokomis P.W. #6

ILD981956477

Comments: Picture taken toward

Sampling point X103. Picture

taken facing southwest. Note

railroad tracks and Nokomis Public

Water Plant in background #22

